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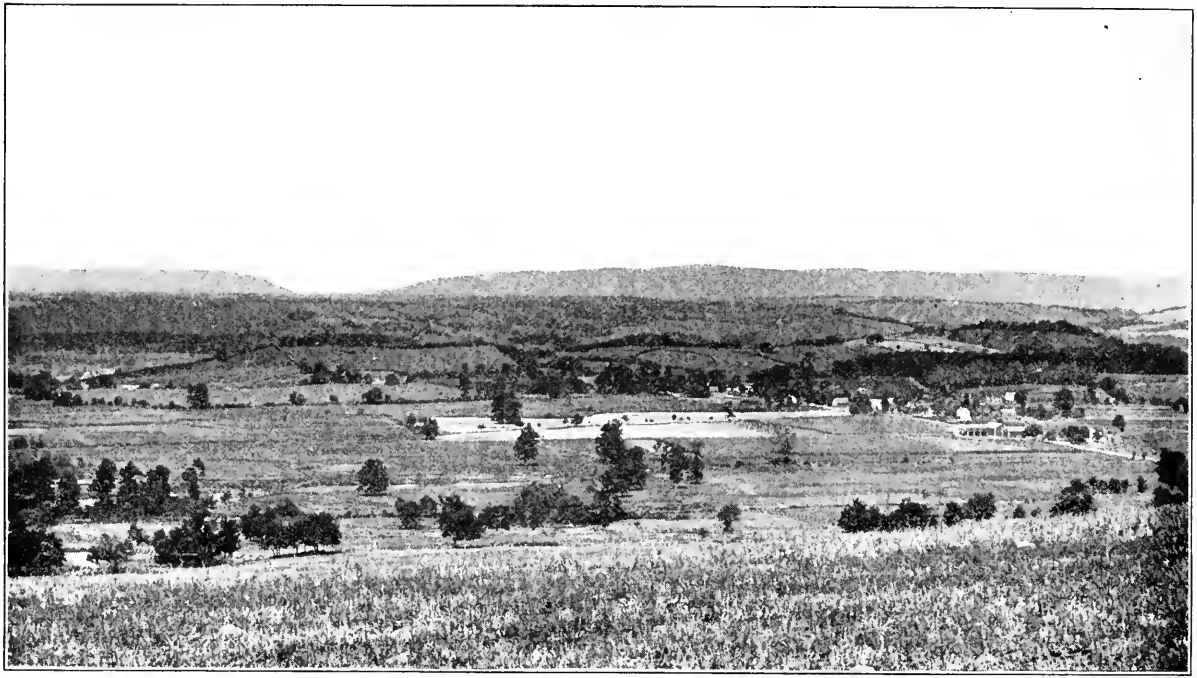

KITTATINNY VALLEY, KITTATINNY MOUNTAIN, AND CULVER'S GAP

GEOGRAPHY AND HISTORY OF NEW JERSEY

BY

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AND

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PREFACE

The geography and history of any state are closely interwoven; New Jersey is no exception. Its coast position between two great cities, the long sandy stretches in the east, and the foothills toward the west and north have all combined to make of the history of this state not only an interesting story which every New Jersey school child should know but also one in which he should take great pride.

It is the geographic conditions with which a people have to contend that determine to a great extent what that people shall accomplish. The authors of the present book have endeavored to show clearly and definitely the character of the land which we call New Jersey: how it has fostered farming, fishing, and manufacturing; how it has steadily made for progress; and how it has brought wealth to the inhabitants. New Jersey has been greatly favored and her people have accomplished much.

The history of New Jersey began almost with the history of our country, and from the time when the first settlers reached her coast and laid out their small farms and towns there have been no movements in our national history in which the men and women of New Jersey have not done their part. It is presupposed that the children who study this book will be acquiring from other texts a general knowledge of United States history, and so only those events and incidents which are peculiarly a part of the history of the state of New Jersey have been included in this narrative.

A brief outline of the civics of New Jersey is included which will furnish a framework of government in this state. From such a beginning the child may develop a wider and more thorough knowledge of local governmental problems.

CONTENTS

GEOGRAPHY

PAGE

INTRODUCTION 3
POSITION 3
BOUNDARIES 6
SIZE 7
GEOGRAPHICAL LOCATION 8
SURFACE FEATURES 8
THE APPALACHIAN HIGHLANDS AND VALLEY 9
THE PIEDMONT BELT 12
THE COASTAL PLAIN 13
EFFECTS OF THE GREAT ICE-SHEET 16
DRAINAGE 18
DRAINAGE BASINS 18
NAVIGABILITY OF STREAMS 20
WATER POWER 21
WATER SUPPLY 23
CLIMATE 25
NATURAL RESOURCES AND INDUSTRIES 26
FORESTS AND LUMBERING 26
ANIMALS AND GAME BIRDS 29
FISHERIES 29
SOILS AND AGRICULTURE 31
MINERAL RESOURCES 42
MANUFACTURING INDUSTRIES 47
TRANSPORTATION 60
RECREATION AND HEALTH RESORTS 67
POPULATION 67
COUNTIES 68
CITIES 68
NEW YORK METROPOLITAN DISTRICT 68

Philadelphia Metropolitan District 78
Seaside and Health Resorts 81
Trenton Area 83
Problems and Projects 87
Incorporated Places in New Jersey having a Population of 2000 or Over in 1920 88
Statistics of New Jersey Counties 90
Higher Institutions of Learning Empowered by the State Board of Education to Grant Degrees 90

HISTORY

The Early Inhabitants of New Jersey 91
Exploration and Settlement 92
Colonial Life in New Jersey 98
The Revolutionary War 105
Period of the Confederation 116
New Jersey as a State 121

CIVICS

Local or Municipal Government 141
County Government 146
State Government 148
Elections 150
Judicial System 151

APPENDIX 153
Formation of Counties 153
Chronological List of Governors 153
United States Senators 156
Constitution of the State of New Jersey 158

INDEX 177

GEOGRAPHY AND HISTORY OF NEW JERSEY

DO YOU KNOW WHY

New Jersey has no town or village more than seven miles distant from a railroad?

New Jersey has nine great railroad terminals in the state?

New Jersey, although forty-sixth in size among the states of the Union, is third in density of population?

New Jersey for many years has kept sixth place among the states in the value of manufactured articles?

New Jersey was the first state to take up the question of extending state aid to counties for the purpose of improving roads?

New Jersey ranks first in the manufacture of silk and silk goods, in the smelting and refining of copper, and in the refining of oil?

New Jersey can harvest over one third of the entire cranberry crop of the world?

New Jersey was the first to fly national colors over Continental troops?

New Jersey has the largest single manufacturing industry in the world?

New Jersey's average value of dairy cows exceeds that of any other state?

New Jersey has been called the People's Playground?

To know why New Jersey has attained a leading position among the states of the Union, to learn more about the early settlers and the brave patriots who fought for freedom, to understand why New Jersey has excelled in so many lines of industry and has become a progressive state of more than three millions of people, we must study the geographical position of the state, its climate, soils, and natural resources, its transportation facilities, manufacturing industries, and cities and towns, and, finally, its place in the history of the greatest democracy the world has ever known.

GEOGRAPHY

INTRODUCTION

New Jersey, situated partly in the Appalachian Highlands and partly in the Atlantic Coastal Plain of North America, is one of the smallest of the United States; yet it has grown to be one of the most prosperous and most important industrial states of the country. It now ranks third in density of population and sixth in value of manufactured goods. This rapid development has been due chiefly to its favorable geographical position, a healthful climate free from extremes of heat or cold, fruitful soils, natural waterways, and rich mineral resources. The important place which New Jersey has taken in the history of the United States has been largely determined by its geography, which we are now to study.

Position. The geographical position of New Jersey is most fortunate. Situated on the eastern coast of North America, and separated from the densely populated continent of Europe by one of the narrowest portions of the Atlantic Ocean, New Jersey was settled early in the history of our country. The ocean highway provided means of transportation and communication between the new country and the old, enabling the settlers to obtain the supplies which they needed from Europe and, in return, to export their own raw products. Without this avenue of trade between the mother countries and the colonies the settlers would have found life in the new country very hard, and many settlements which have grown to be great cities would have been abandoned. As we learn more of the history and geography of New Jersey we shall see that its position on the Atlantic seaboard has been one of the chief causes of its commercial development.

Just as significant as the fact that New Jersey faces the Atlantic is the fact that it has at its back the great stretch

of mountains and fertile plains that make up a large part of the United States. In the early colonial days the Appalachian Mountains acted as a barrier for the colonists, protecting them from the attacks of Indians from the interior and preventing them from moving inland any great distance. This was a great advantage, for it meant that newcomers from Europe settled in the coastal regions, increasing the size and strength of the towns, instead of traveling inland in search of wealth or adventure. Only the hardiest pioneers were willing to brave the dangers of the deep forests, the rough mountain slopes, and the lurking Indians of the highland barrier.

Later, as trails were cut through the wilderness, and as roads and finally railroads were built, it was natural that the settlers in the Appalachian region and the plains to the west of it should send their products to the coastal towns to be exported, and should receive their supplies from these centers. In this way the cities and towns of the Atlantic coastal area came to be places of commercial exchange, or markets. While these commercial advantages were not enjoyed by New Jersey alone, our state had a large share in them.

When, at the end of the Revolutionary War, the United States took its place as an independent nation, the same geographical conditions which had favored the development of the early colonies along the coast led to their increased size and importance as the commercial and industrial centers of the new nation. The cities of New York and Philadelphia came to be, first, the chief markets and ports of the United States, and, later, world markets of the first rank.

A glance at the map on page 5 (Fig. 1) shows what this growth of New York and Philadelphia meant to New Jersey. The state is located between these two great world markets, and its position is such that a large number of the railroad lines connecting the West with New York City must pass through it. Furthermore, all the direct railroad lines between New York and Philadelphia cross central New Jersey. New York City is located at the southeastern tip of New York State, bordering New Jersey. In a similar way, Philadelphia is situated at the

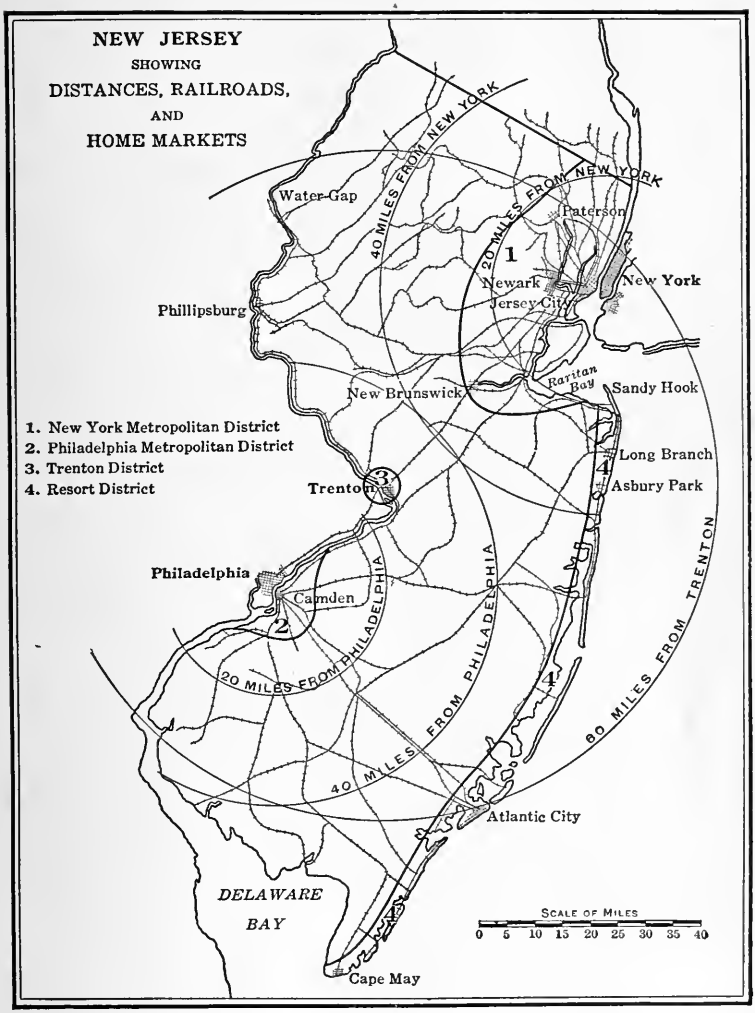


FIG. 1. Notice how much of New Jersey lies within a radius of forty miles of either New York or Philadelphia. Notice also how much of the state lies within a radius of sixty miles of Trenton

southeastern extremity of Pennsylvania, bordering New Jersey. As these two great cities have increased in size and commercial importance, more and more people have been needed to carry on their business. New Jersey has been the natural place for hundreds of thousands of these people to make their homes, and today ten million persons live within a radius of sixty miles of Trenton. Great cities and towns have grown up in New Jersey, in the districts surrounding New York and Philadelphia and along the commercial route between them.

This large population, crowded into a small area, has determined to a great extent the industries of the state. The cities and towns provide a steady and ever-increasing demand for food and manufactured products. Much of the soil of New Jersey is well suited to agriculture, and large areas are devoted to the cultivation of vegetables and fruits for the cities and to the raising of dairy cattle and poultry to provide them with milk, cream, butter, and eggs.

The demand for manufactured products of all kinds has led to the development of great manufacturing industries in New Jersey. The state lies within a short distance of the coal fields of Pennsylvania, from which the manufacturers can draw their fuel supply cheaply and easily. The railroads that enter the state from all directions bring the necessary raw materials. The ocean commerce creates a demand for ships, and shipbuilding has therefore become an important industry.

Boundaries. The Atlantic Ocean forms most of the eastern boundary of New Jersey. We have already seen the importance of this frontage on one of the world's great ocean highways. On the north the eastern boundary is made up of New York Bay and the Hudson River. The cities of New Jersey which lie opposite New York City share in the business and prosperity of the largest city and the greatest port in the world.

The only part of New Jersey which is not bordered by a body of water is the portion which joins New York State on the north. On the west is the Delaware River, navigable for ocean-going vessels from Trenton to the sea. On the south is Delaware Bay, the broad, deep mouth of the Delaware River, which forms one

of the great indentations of the Atlantic coast. The portion of New Jersey which lies across the Delaware River from Philadelphia, known as the Philadelphia Metropolitan District, partakes of all the commercial activities of that great port.

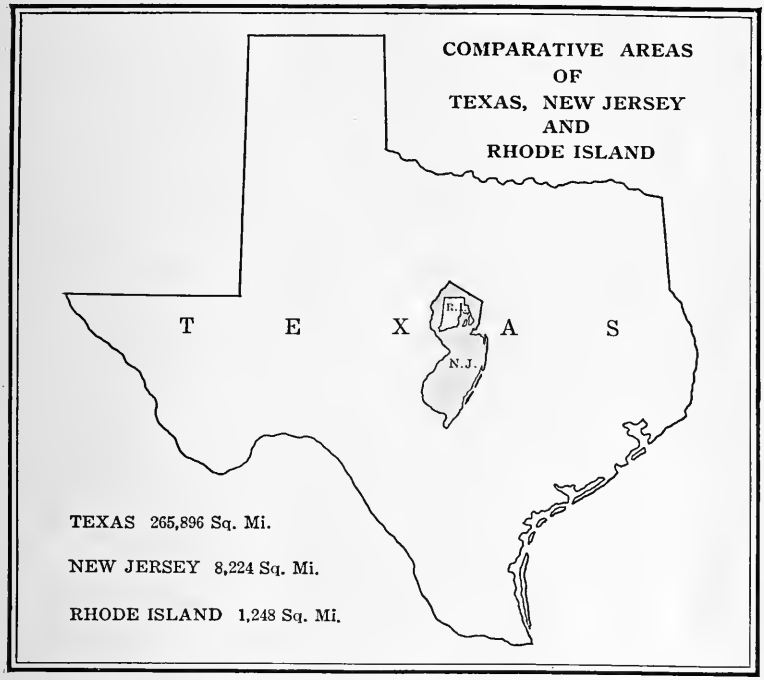


FIG. 2. After studying the comparative areas shown in this map, look up the population of each of the three states and figure out how many people each one has per square mile

These water boundaries, navigable for so many miles, give to New Jersey great commercial and industrial advantages. Raw materials for the industries of the state can be received from any port in the world by water, and in the same way the products of New Jersey's factories can be shipped with ease to all parts of the world.

Size. New Jersey is much smaller than her neighbors, New York and Pennsylvania; in fact, there are only three states in the Union which have smaller areas,—Connecticut, Rhode

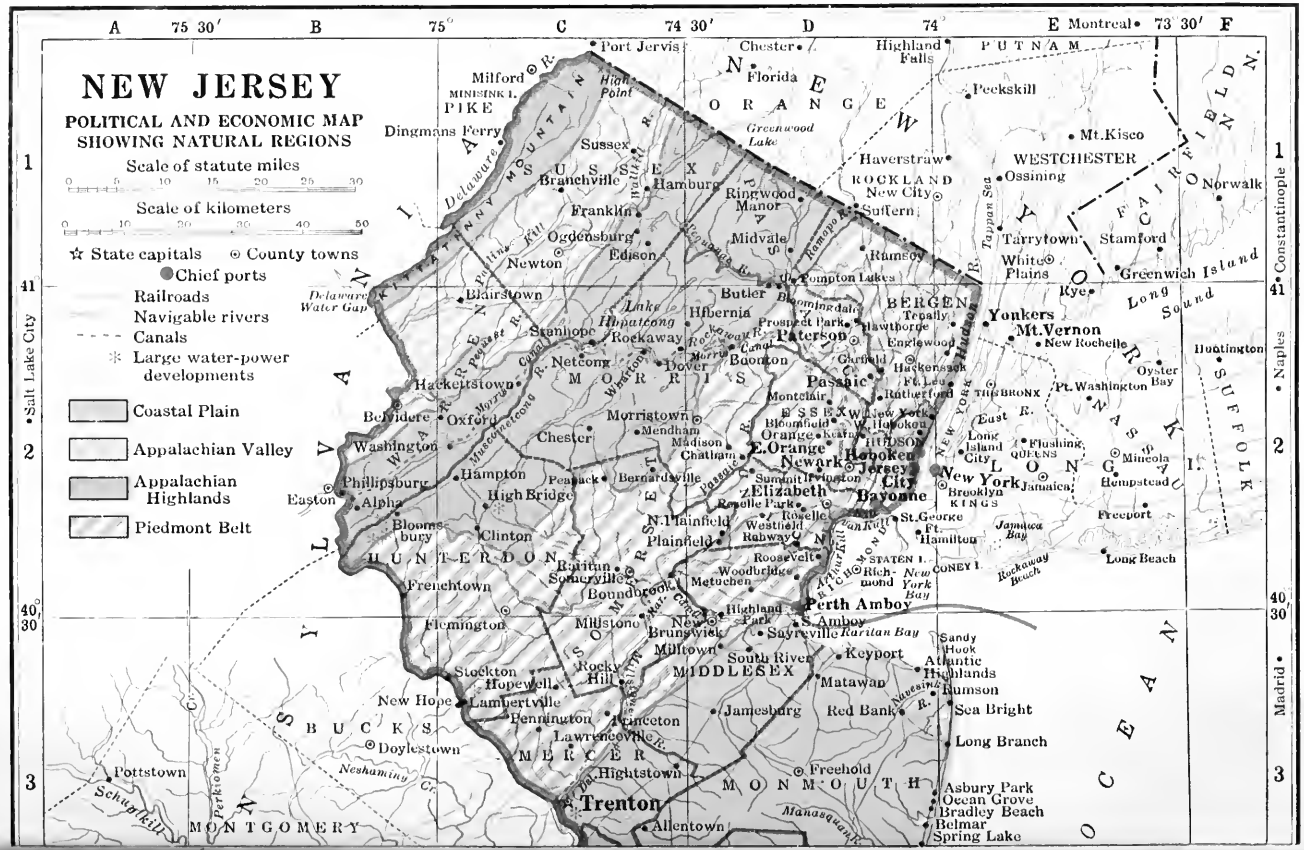
Island, and Delaware. New Jersey is about 170 miles in length and has an average width of about 50 miles. Its total area of 8224 square miles is about one fifth of the area of Pennsylvania and about one sixth of that of New York State. The area of New Jersey could be fitted into that of Texas, the largest state in the Union, thirty-two times with more than 2000 square miles left over, yet New Jersey has nearly three fourths as many people as Texas. In size New Jersey and Massachusetts are almost twins, the difference between them being only 42 square miles, in favor of Massachusetts. New Jersey is about six times as large as Rhode Island, the smallest of the United States (Fig. 2).

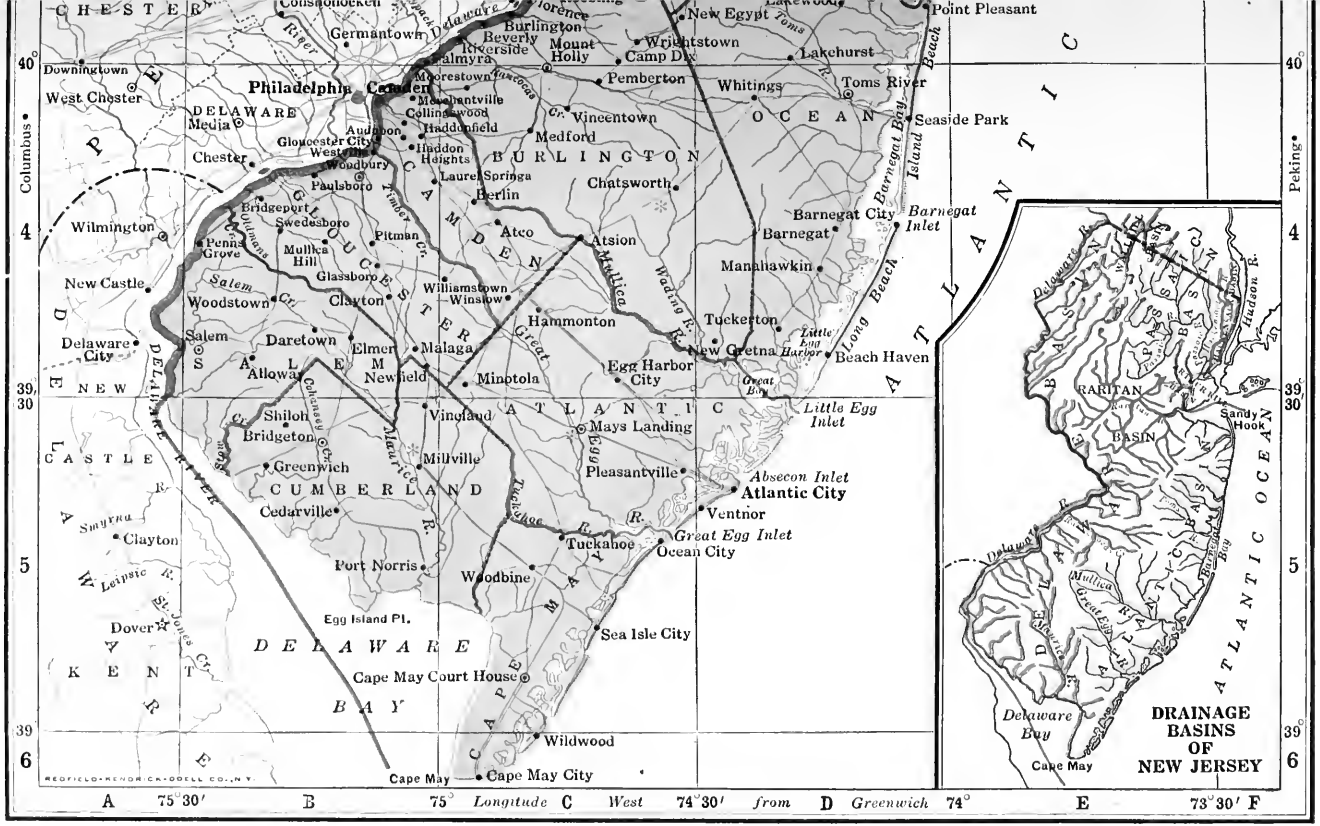
Geographical location. New Jersey is situated in the north-temperate zone between the parallels of 38° 55′ and 41° 21′ north latitude. This is approximately the latitude of the northern part of California. Portugal, southern Spain, southern Italy, and Greece are the portions of Europe that lie in the same belt of latitude. Northern China and Japan are also located between these parallels.

New Jersey lies between the meridians of 73° 53′ and 75° 35′ west longitude. Northward from New Jersey the eastern portion of New York State extends to the Canadian boundary line; southward there is an almost unbroken stretch of ocean to the Bahama Islands.

SURFACE FEATURES

The surface of New Jersey varies greatly in different parts of the state. The northern section is mountainous, the middle portion is hilly and rolling, and the southern part slopes gently to the sea. The state is divided into four distinct natural regions, each one of which has special geographic features which affect the life of the people, determining to a large extent the nature of their occupations and industries. These regions are (1) the Appalachian Highlands, (2) the Appalachian Valley, (3) the Piedmont Belt, and (4) the Coastal Plain. Study the extent of these regions on the map following this page, and their relief on the map between pages 24 and 25.


NEW JERSEY
POLITICAL AND ECONOMIC MAP
SHOWING NATURAL REGIONS
Scale of statute miles
Scale of kilometers
☆ State capitals ⊙ County towns
Chief ports
Railroads
Navigable rivers
Canals
Large water-power developments
Coastal Plain
Appalachian Valley
Appalachian Highlands
Piedmont Belt
A 75 30′ B 75° C 74 30′ D 74 E Montreal 73 30′ F
Salt Lake City
Constantinople
Naples
Madrid
Port Jervis
Milford
MINISINK I.
PIKE
Dingmans Ferry
Delaware R.
Delaware Water Gap
KITTATINNY MOUNTAIN
High Point
Sussex
Branchville
Hamburg
Franklin
Ogdensburg
Edison
Newton
Blairstown
Hackettstown
Belvidere
Oxford
Washington
Phillipsburg
Easton
Alpha
Bloomsbury
Pohatcong Mts.
Lake Hopatcong
Stanhope
Rockaway
Netcong
Dover
Morristown
Mendham
Chester
Hampton
Pleasant Grove
Bernardsville
High Bridge
Clinton
Flemington
Frenchtown
Raritan
Somerville
Boundbrook
Millstone
Stockton
Hopewell
New Hope
Lambertville
Pennington
Lawrenceville
Princeton
Doylestown
Pottstown
Schuylkill R.
Perkiomen Cr.
Neshaminy Cr.
MONTGOMERY
BUCKS
MERCER
SOMERSET
HUNTERDON
WARREN
SUSSEX
MORRIS
Delaware R.
Pequest R.
Paulins Kill
Musconetcong R.
Morris Canal
Rockaway R.
Passaic R.
Raritan R.
Millstone R.
Stony Brook
Delaware & Raritan Canal
Canal
Delaware R.
Lehigh R.
Lehigh Valley R.R.
Lehigh Valley
Wyoming Valley
Susquehanna R.
Chenango R.
Tioga R.
Chemung R.
Susquehanna R.
Port Jervis
Chester
Florida
Greenwood Lake
Milford
Ringwood Manor
Midvale
Newfoundland
Pompton Lakes
Butler
Hibernia
Boonton
Paterson
Passaic
Bloomingdale
Prospect Park
Totowa
Hawthorne
Garfield
Englewood
Hackensack
Ft. Lee
Rutherford
Montclair
Bloomfield
Orange
Madison
Chatham
E. Orange
Newark
Harrison
Hoboken
W. Hoboken
Jersey City
Bayonne
Elizabeth
Roselle Park
Roselle
Westfield
Rahway
N. Plainfield
Plainfield
Summit
Irvington
Passaic R.
Hudson R.
New York
Brooklyn
KINGS
Jamaica
Long Island
QUEENS
Flushing
Mineola
Hempstead
Freeport
Long Beach
Oyster Bay
Huntington
Port Washington
The Bronx
East R.
Harlem R.
Yonkers
Mt. Vernon
New Rochelle
Rye
Long Island Sound
White Plains
Greenwich
Stamford
Norwalk
Tarrytown
Ossining
Haverstraw
WESTCHESTER
ROCKLAND
New City
Suffern
Peekskill
Mt. Kisco
PUTNAM
Highland Falls
Tappan Sea
Hudson R.
Ramsey
Ramapo R.
Ramapo Mts.
Pompton R.
Pequannock R.
Wanaque R.
Wanaque
Midvale
Franklin
Hamburg
Ringwood
Suffern
Ramsey
Compton Lakes
Perth Amboy
S. Amboy
Sayreville
Raritan Bay
Keyport
South River
Matawan
Red Bank
Jamesburg
Freehold
Hightstown
Trenton
Allentown
Manasquan R.
Navesink R.
Rumson
Sea Bright
Long Branch
Asbury Park
Ocean Grove
Bradley Beach
Belmar
Spring Lake
Atlantic Highlands
Sandy Hook
Coney I.
Rockaway Beach
Staten I.
Richmond
New York Bay
Ft. Hamilton
St. George
Van Kull
Kill Van Kull
Newark Bay
Hackensack R.
Passaic R.
Meadowlands
Secaucus
Weehawken
Union City
West New York
Guttenberg
North Bergen
Jersey City
Bayonne
Elizabeth
Roselle Park
Roselle
Westfield
Rahway
Woodbridge
Metuchen
Highland Park
New Brunswick
Milltown
Rocky Hill
Hopewell
Lambertville
Pennington
Lawrenceville
Princeton
Doylestown
Pottstown
Schuylkill R.
Perkiomen Cr.
Neshaminy Cr.
Delaware R.
Delaware Water Gap
Lehigh R.
Lehigh Valley R.R.
Lehigh Valley
Wyoming Valley
Susquehanna R.
Chenango R.
Tioga R.
Chemung R.
Susquehanna R.
Delaware & Raritan Canal
Canal
Morris Canal
Rockaway R.
Passaic R.
Raritan R.
Millstone R.
Stony Brook
Musconetcong R.
Pequest R.
Paulins Kill
Delaware R.


CHESTER
DELAWARE
NEW CASTLE
KENT
SUSSEX
CUMBERLAND
SALEM
GLOUCESTER
CAMDEN
BURLINGTON
OCEAN
ATLANTIC
Philadelphia
Camden
Wilmington
Trenton
Atlantic City
Cape May
Cape May City
Wildwood
Ocean City
Sea Isle City
Longitude West from Greenwich
DRAINAGE BASINS OF NEW JERSEY
RARITAN BASIN
DELAWARE BAY
ATLANTIC OCEAN
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The Appalachian Highlands and Valley. The Appalachian Highlands are divided by the Appalachian Valley into two sections. Both are mountainous, and both belong to the great region of old, worn-down mountains which extends northward from Alabama to Maine; but, as we shall see, there are certain important differences between the two sections.

Extending along the northwestern border of the state, from the New York boundary to the Delaware River at Delaware Water Gap, is the *Kittatinny Mountain* range, which forms the northwestern section of the Appalachian Highlands in New Jersey. South of the Water Gap this range extends into Pennsylvania, where it is known as the Blue Mountain range. Its length within the boundaries of New Jersey is about thirty-six miles, and its width varies from two miles in its southern portion to four or five miles near its northern end.

The Kittatinny Mountain section is the highest part of New Jersey. The range has an average elevation of about sixteen hundred feet above sea level, and its greatest altitude, at High Point, not far from the New York State line, is eighteen hundred and four feet. The most striking feature of this range is its remarkably even crest. When seen from a distance its summit line looks almost perfectly level except in those places where the rivers have cut gaps through it. The river gaps are another interesting feature of the range. Only a few rivers have been able to cut their way through this high, rugged range, and their valleys through the mountain are narrow and steep-walled. The most beautiful of these valleys is the Delaware Water Gap, where the Delaware River has made its way through the range. Near the northern end is Culver's Gap, originally carved by a river, but in which there is no stream today (see Frontispiece). Such a valley is called a wind gap. These valleys not only serve to increase the beauty of the region but they offer convenient routes of travel and communication. Through them roads have been built, connecting towns on either side of the range. Two railroad lines make use of the Delaware Water Gap in crossing the range from Pennsylvania to New Jersey (Fig. 3).

The slopes of Kittatinny Mountain are steep and rocky, and the range is well forested. As yet no large lumbering operations have been undertaken in this region, but the forests are a valuable natural resource. The western slope of the range descends by a series of hills and valleys to the Delaware River. The eastern slope, which is the steeper of the two, drops abruptly to the Kittatinny Valley.

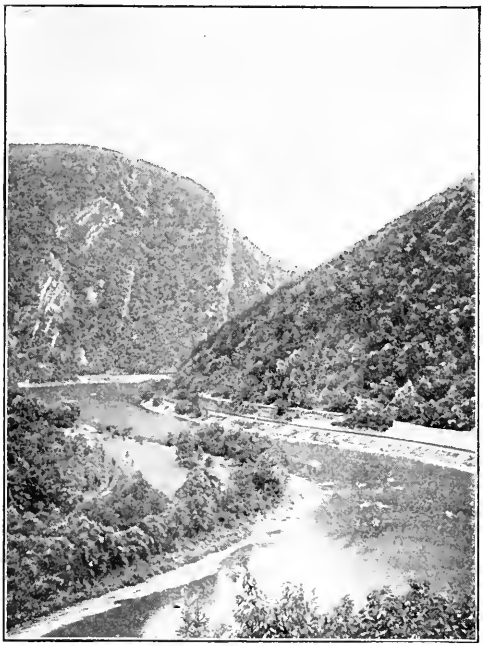

FIG. 3. Delaware Water Gap. A natural avenue of travel and communication between northern New Jersey and Pennsylvania

The *Kittatinny Valley* is the northward extension of the great Appalachian Valley, which stretches northeastward between the ranges of the Appalachian Highlands from Alabama to the state of New York. This long, troughlike mountain valley is from ten to thirteen miles wide in New Jersey and lies about six hundred feet below the level of the crests of the highlands that border it. This region is not the valley of one river alone, but is made up of a number of river valleys between which are low hills. Its rolling surface is dotted with dairy farms and fields of wheat, hay, alfalfa, corn, and other grains (see Frontispiece).

Southeast of the Kittatinny Valley is the second section of the Appalachian Highlands, which is known as the *Highlands of New Jersey*. The surface of the Highlands region is

mountainous, and the average elevation of the summits is about one thousand feet. In the northwestern part some of the mountains rise to over twelve hundred feet. As a whole the ranges of the Highlands have a general northeast-to-southwest direction, like the Kittatinny Mountain range, but they differ from it in that they are not long, narrow, flat-topped ridges,

FIG. 4. The hills and lakes of the Highlands of New Jersey combine to make this region an ideal vacation land

but have a great variety of shapes. Some of them are ridge-like, but many are very irregularly shaped mountain masses.

These mountains once stood much higher than they are to-day. Through long ages the rains, winds, rivers, snow, and ice have been at work wearing them down to their present level. It is believed that at one time all that part of New Jersey which belongs to the Appalachian Highlands was a broad, rolling plateau, and that the mountains and hills and valleys of today have been carved from the old plateau by these agents of nature. In wearing down the Highlands region the rivers have washed much rock material eastward over the Piedmont Belt, helping in this way to make its soils fertile.

The scenery of the Highlands region is very beautiful, and among its hills and mountains are many summer resorts. Between the mountains are clear, sparkling lakes, many of which owe their origin to the great ice-sheet of which we shall study later (Fig. 4). Among these lakes the most notable are Hopatcong, Greenwood, Macopin, Splitrock, Green, Wawayanda, and Budd.

The minerals of the Highlands region form one of the natural resources of the state. Valuable deposits of iron, zinc, and cement rock are found, some of which are mined extensively.

The Piedmont Belt. Lying southeast of the Highlands and parallel with them is a region of broad valleys and low hills, broken here and there by abrupt ridges that rise sharply above the surrounding country. This is the Piedmont Belt. The word *Piedmont* means "at the foot of the mountains." This belt is sometimes called the Sandstone Plain because large areas of it are composed of red sandstone. Its elevation varies from sea level to about nine hundred feet. The Piedmont varies from twenty to thirty miles in width and comprises approximately one fifth of the area of the state.

The abrupt ridges which rise above the general level of the Piedmont Belt are composed of volcanic rock known as *trap*, and are therefore called *trap ridges*. These volcanic rocks were forced up through cracks in the sandstone in a molten state. As this molten material cooled, it formed rocks which are harder than the surrounding sandstones, and which, therefore, have been better able to stand the wearing away by rain, frost, and rivers. This is the reason why they stand out today as distinct elevations above the Sandstone Plain. The Palisades, the Watchung Mountains, Sourland Mountain, Cushetunk Mountain, and Rocky Hill are ridges of this type (Fig. 5).

The trap ridges are generally forested, in contrast to the sandstone country, most of which is cultivated. Most of the large cities of New Jersey are located in the Piedmont Belt because of its nearness to the great ports of New York and Philadelphia.

The Coastal Plain. All that portion of New Jersey which lies southeast of the Piedmont Belt belongs to the Coastal Plain. This region is one hundred miles in length from Sandy Hook to Salem and is from twenty to sixty miles wide. The surface is gently sloping, with the exception of the Navesink

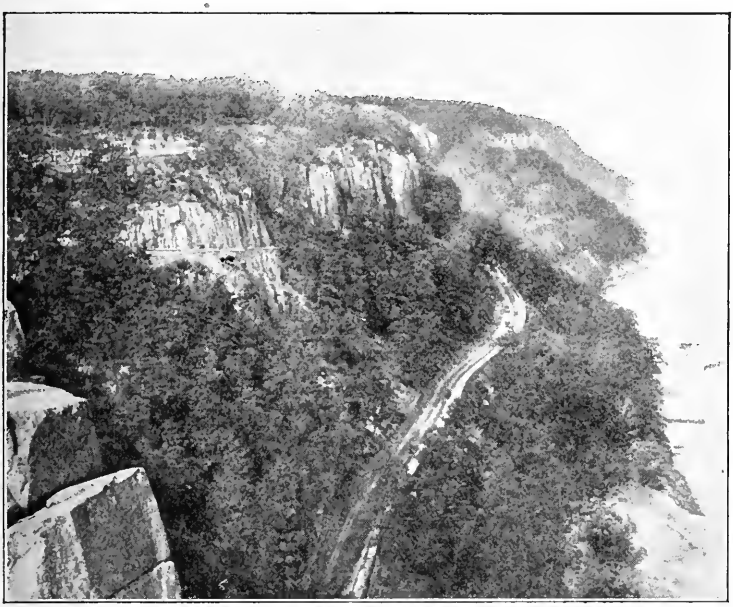

FIG. 5. The Palisades rise abruptly along the New Jersey shore of the Hudson River, forming a solid wall of trap rock

Highlands and Mount Pleasant Hills, where the highest elevation is less than four hundred feet. Along the Atlantic coast, south of Point Pleasant, a long, broken row of sand ridges or sand bars rises above the sea level. These sand bars have been built up offshore by the action of the waves and ocean currents. The winds have piled up the sand on the bars in the form of sand dunes, which give the bars a very irregular surface (Fig. 6). Between these sand bars and the mainland there is an almost continuous channel of shallow water, which is fringed along the inner shore line by tidal marshes or salt meadows. At various

points the bars are broken, and shallow inlets lead from the Atlantic Ocean into the landlocked bays. Because of these sand bars and the shallow water New Jersey has no good commercial harbor on the Atlantic coast from Sandy Hook to Cape May. Estimate this distance from the map following page 8.

FIG. 6. Some of the sand dunes are partly covered with coarse grass. Others are bare and are being shifted about constantly by the wind. Can you estimate the height of the dune in the background by comparing it with the height of the man at the right in the picture?

The rock materials of which the Coastal Plain is composed were laid down in the waters of the ocean long, long ago, at a time when the sea beat directly against what is now the outer margin of the Piedmont Belt. Later the sea bottom was elevated, and thus the Coastal Plain came into existence. Since that elevation the shore line of New Jersey has sunk somewhat, drowning the mouths of the rivers and bringing into existence extensive areas of salt marshes.

The soils of the Coastal Plain are varied and are found in roughly parallel belts. They consist of sands, gravels, clays,

and marls. The sand belts of New Jersey are infertile, but when fertilized can be made to produce abundant crops of vegetables and berries. They are used extensively for truck farms. In the southern part of the state the sands have given rise to a great glassmaking industry. In some parts of the

FIG. 7. This is one of the extensive peach orchards on the Coastal Plain of southern New Jersey. Notice the careful cultivation of the land between the rows of trees. Find out the reasons for this cultivation

state the sands are covered with a stunted growth of oak and pine, and in other parts with pine forests called "The Pines."

The gravels are used for making road-building materials. The clays are a very important resource because they make possible the great pottery industry of the state. The marls are very rich and make wonderfully productive agricultural and orchard lands (Fig. 7). The low, marshy bog lands are well adapted to the raising of cranberries. New Jersey's famous cranberry crop comes from Ocean, Atlantic, and Burlington counties.

EFFECTS OF THE GREAT ICE-SHEET

The great continental ice-sheet, which long ago moved slowly southward from Canada over the northern part of the United States, affected only the northern portion of New Jersey. Very slowly the huge mass of ice, thousands of feet in thickness, crept southward across New England and New York State until, at last, its southern edge in New Jersey rested along a line which runs eastward and southward across the state from Belvidere to Morristown and Perth Amboy. Embedded in the ice was a great amount of sand, gravel, and bowlders which it had scraped from the land surfaces to the north as it moved over them.

This great mass of rock-shod ice rounded and scratched the summits and slopes of the mountains over which it passed, and deepened the valleys, smoothing and polishing their sides and bottoms. Gradually the climate grew warmer and the ice slowly melted backward in the direction from which it had come. With the melting the rock material which it had been carrying was dropped irregularly over the land surface. This rock material, left behind by the ice-sheet as it retreated northward, is known as *glacial drift*.

Along the line where its southern edge had rested in New Jersey it left an irregular deposit of bowlders, and hills of sand and gravel. This line of glacial drift forms the *terminal moraine* (see Fig. 17). North of the terminal moraine the glaciated area of New Jersey shows many proofs of the passage of the ice-sheet. In places the bare rock surfaces exhibit scratches and grooves made by the grinding force of the ice as it moved over them. Scattered over the hills and valleys alike are bowlders of various sizes and deposits of sand and gravel, some of which are many feet in thickness, while others have a depth of only a few feet (Fig. 8).

In some of the river valleys, which had been deepened by the forward movement of the ice, the retreating glacier deposited enough sand and gravel to dam the streams, and thus many of the beautiful lakes of northern New Jersey came into

existence. The rivers, blocked by the glacial deposits, were forced to find new channels, and some of them now follow courses many miles from the valleys in which they flowed before the glacial period.

Among the rivers of New Jersey which were thrown out of their courses by the ice-sheet the Passaic is the most interesting.

FIG. 8. This scene near Hackettstown is typical of the moraine belt of northern New Jersey. What counties are crossed by the terminal moraine?

It is believed that before the glacial period the Passaic flowed southeastward from Summit, emptying directly into the lower end of Newark Bay. When the ice melted, it left a line of morainal hills across the path of the river, obstructing its course and forcing it to turn northward, seeking an easier way to the sea. Today the Passaic flows many miles northward from Summit before it finds a route by which it can run eastward and southward to the ocean. Trace the course of the Passaic River on the map following page 8.

The visit of the great ice-sheet helped New Jersey in several ways. It gave to northern New Jersey the beautiful lakes which make the Highlands region an attractive vacation land for so many people. By turning the rivers out of their courses

and compelling them to wander over areas first of harder rocks and then of softer rocks, it was responsible for the development of many waterfalls which add beauty to the landscape and provide a valuable source of power. The falls of the Passaic River at Paterson occur where the stream flowed across a hard ridge of trap rock to an area of softer rocks. Gradually the softer rock was worn away, leaving the harder ridge standing above it, and thus the falls came into existence.

In some parts of northern New Jersey the glacier enriched the soils by leaving behind it deposits of finely ground rock material composed of many kinds of minerals. These mixed glacial soils are rich in plant food and produce excellent crops.

DRAINAGE

Drainage basins. New Jersey is drained by a large number of small streams and a few larger rivers. In general the smaller rivers are those which rise along the low watershed of the Coastal Plain and flow eastward to the Atlantic Ocean or westward and southward to the Delaware River and Delaware Bay. These streams belong to the Atlantic Drainage Basin and to the southern half of the Delaware River Basin (see map following page 8). The Coastal Plain rivers which flow into the Atlantic Ocean have had their mouths drowned by the sinking of the coast line, which has allowed the ocean waters to extend for some distance upstream. These streams are strongly affected by the tides and are known as *tidal rivers*. The Navesink, Toms, Mullica, and Maurice rivers are good examples of this type (Fig. 9).

The larger rivers of New Jersey are located in the northern part of the state and have their sources in the mountains and uplands of the three northern natural regions. Most of these rivers have been in existence much longer than the rivers of the Coastal Plain and are often referred to as *true rivers*. The Passaic and Raritan drainage basins cover a large proportion of the Highlands and the Piedmont Belt. We have already learned that the Passaic River was forced to change its course

on account of the deposits of glacial drift left by the melting ice-sheet. The Raritan River suffered in the same way from the passage of the great glacier. These two rivers are the largest and the most important streams located within the boundaries of New Jersey.

The long, winding courses of the Passaic and Raritan rivers stand out in sharp contrast to the shorter, straighter courses

FIG. 9. This is the broad tidal mouth of the Maurice River. Most of the boats in the picture are used for gathering oysters

of the Hackensack, Wallkill, and Musconetcong rivers. These three streams have carved their valleys through areas of comparatively soft rock which run in a northeast-to-southwest direction, roughly parallel to the belts of the natural regions. Because they have encountered no great obstructions such as hills or mountain ridges they have been able to hold to much more direct courses than the Passaic and Raritan rivers.

The lower courses of the Passaic, Raritan, and Hackensack rivers are affected by the tides in the same way that the rivers of the Atlantic Drainage Basin are affected, making them tidal rivers for some distance upstream from their mouths.

Navigability of streams. The most important navigable rivers of New Jersey are not those which lie within the state, but those which border it—the Hudson and the Delaware.

The Hudson River, which is navigable for large ships as far as Troy, New York, forms the southern part of a great water highway that leads from the Atlantic Ocean to the heart

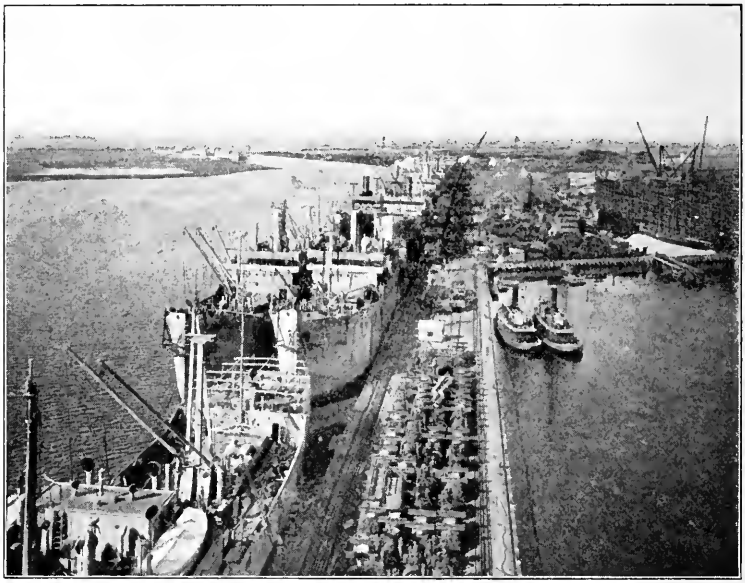

FIG. 10. Shipyards have been built along all the larger navigable waterways of New Jersey. This one is on Newark Bay

of the Central Plains of our country. The location of northern New Jersey at the eastern end of this great waterway is one of the important causes of the prosperity of this part of the state. Along the Hudson River, New York Bay, and Newark Bay have sprung up the great commercial cities of Hoboken, Jersey City, and Bayonne. Huge docks have been built along the water front of these cities for the accommodation of ocean-going steamers (Figs. 10, 11).

The Delaware River is navigable for large vessels as far as Trenton. This navigability has led to the development of

Camden and Trenton as ports of importance and has stimulated the growth of a great shipbuilding industry in this part of New Jersey.

Other parts of the state benefit to a lesser extent from the navigability of the streams. Ships of moderate size steam up the Passaic River to Newark and Passaic and up the Raritan

FIG. 11. This ship is being loaded with grain at Edgewater. The cargo is destined for a European port

River to New Brunswick. Many of the smaller tidal rivers of the Coastal Plain are navigable to some extent by vessels of light draft.

Water power. We have already learned why the rivers of northern New Jersey have developed waterfalls along their courses. These waterfalls furnish abundant power which can be transformed into electricity and used to turn the wheels in mills and factories, to run the street cars, and to light the cities and towns. The larger falls have already been harnessed, but there are many smaller ones which will be used for power in

the future. The falls of the Passaic River at Paterson and those of the Delaware River at Trenton provide power for many great industrial plants (Fig. 12). Both of these great cities owe much of their prosperity to their abundant water power.

The rivers of the Coastal Plain, which flow slowly over the gently sloping surface, have very little opportunity to develop

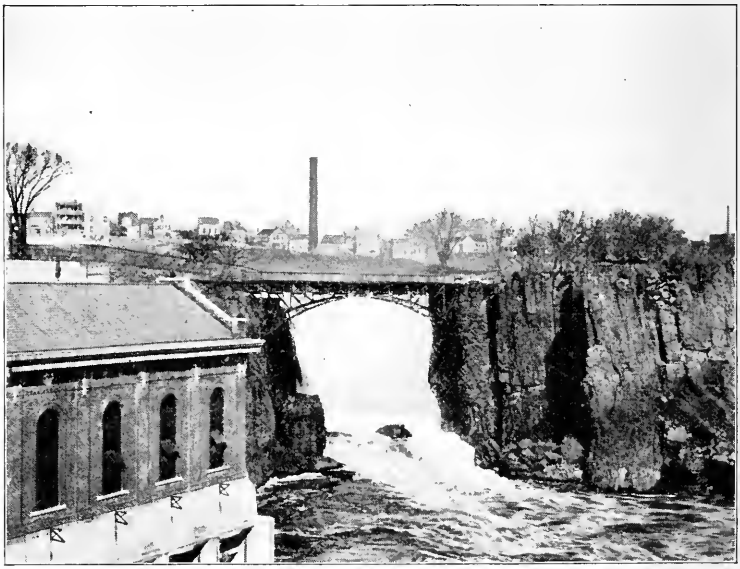

Fig. 12. This view of the falls of the Passaic at Paterson shows the hard ridge of trap rock over which the river flows

falls, and this region of the state is poor in water power. This is one of the chief reasons why the large manufacturing centers of New Jersey are grouped in the northern part of the state. As we shall see later, the manufacturing industries of southern New Jersey owe their origin to natural resources other than water power.

It is now possible to transmit the electricity generated by waterfalls over cables of copper wire to points several hundreds of miles from the power plants. Manufacturing plants can therefore make use of electricity for power even if they have

no means of generating it near at hand. For this reason it is likely that as the manufacturing industries of New Jersey increase in the future, the centers of production will be scattered more broadly over the state.

Water supply. Wherever large numbers of people live and work together their prosperity depends to a large extent upon healthful living conditions. An abundant supply of pure water is therefore a necessity. New Jersey is fortunate in having sufficient rainfall to provide plenty of water for the people, but great care must be taken in order that it may reach the homes free from all harmful impurities.

In the three northern regions of the state the water supply comes from the rivers that rise in the hills and mountains. In the early days the cities and towns along the streams drew their water directly from the rivers as they flowed by. As more and more people came to live in these centers it became unsafe to obtain water in this way, for the streams were polluted by the waste which was emptied into them. Furthermore, in some rivers there was often danger of a shortage of water during an unusually dry season. In the spring the streams of the Highlands are swollen and the steep slopes send the water rushing to the sea. If no effort is made to store any of it, and a long, dry summer follows, the streams become shallow, sluggish, and muddy, the water supply is greatly reduced, and the health of the people is endangered.

As the population of the cities and towns of northern New Jersey increased, it was clear that means must be taken to prevent the loss of water at the flood seasons and to insure its purity. Great storage reservoirs have been built in the hills and mountains near the sources of the streams. As the rain falls on the slopes, feeding the streams, their waters are caught and stored in these reservoirs before they reach any point where pollution can occur. From the reservoirs the water is sent through long pipe lines to the industrial and residential centers. In this way the people of the densely populated portions of the state are provided with a plentiful supply of pure water at all times of the year.

The metropolitan district of Bergen, Essex, Hudson, Middlesex, Passaic, and Union counties consumes the water from twenty-six different water systems. Long pipe lines convey the water from reservoirs at the headwaters of the Passaic and Pequanac rivers to Newark and of the Passaic and Rockaway rivers to Jersey City. Other cities in this area draw upon the Passaic, Wanaque, Ramapo, and Hackensack rivers for their water supply.

In the Coastal Plain, where the population is less dense, the problem of obtaining a good water supply is not so great. A large number of the cities and towns are supplied with underground water from artesian wells. The Coastal Plain is composed of parallel layers of rock, all of which dip gently toward the ocean. Some of these rock layers are porous; that is, water can pass through them. Others are impervious, or so solid that water cannot pass through them. The rain that falls along the inner margin of the plain where it is highest above sea level finds its way down into the ground and moves slowly seaward through the porous layers. The impervious layers prevent the water from escaping from the porous layers, and when a well is driven down through the impervious rock into a porous layer, the water often gushes to the surface. If it does not rise to the surface by its own pressure it can be pumped out. Thus the Coastal Plain offers exactly the right conditions for artesian wells. The water from such wells is pure, for the sand of the porous layers acts as a filter for the water, removing from it all impurities and foreign matter.

The cities and towns of the Coastal Plain which are not served by artesian wells obtain their water supply from the small streams that make their way slowly over the gently sloping surface. Because these rivers flow slowly and because their beds are for the most part in sand, the amount of water in them is about the same at all times of the year and is sufficiently pure to be used with safety. The rivers and the layers of porous rock together provide a large natural storage of surface and underground water, and therefore the water supply of the Coastal Plain never fails.

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CLIMATE

The climate of New Jersey, with its abundant rainfall and its freedom from extremes of heat and cold, is favorable to the growth of a large variety of crops. This healthful and productive climate is due to the location of New Jersey on the eastern coast of the United States and in the belt of westerly winds.

The westerly winds blow from west to east over our country, bringing to the eastern part the summer heat and the winter cold of the great plains of the interior. If it were not for the fact that New Jersey borders the Atlantic Ocean the state would have very cold winters and intensely hot summers. Although the prevailing winds are from the west and northwest, the wind often blows from the east and southeast. These easterly winds come from over the ocean, which is cooler than the land in summer and warmer than the land in winter. Thus they serve to prevent extremes of temperature at all seasons.

The rainfall of New Jersey comes partly from the storm centers that move across the country from the west with the prevailing winds, and partly from those which sweep northward from the Gulf of Mexico and the West Indies. These storm centers draw the winds inward from all directions. When such a center passes over New Jersey the wind blows strongly from the east and southeast. These easterly winds bring most of the rainfall to the state, for they come from over the ocean and are heavily laden with moisture. The westerly winds bring much less moisture, for they have crossed the main ranges of the Appalachian Highlands before they reach New Jersey and have been forced to give up much of their moisture on the western slopes. They serve, however, to increase the amount of rainfall in the northern portion of the state.

The amount of rainfall in New Jersey varies very little from year to year and is well distributed through all the months, providing ample moisture for agriculture and keeping the streams well filled with water. In most years northern New Jersey receives a little more rainfall than the southern part of the state.

NATURAL RESOURCES AND INDUSTRIES

FORESTS AND LUMBERING

When the European settlers first came to New Jersey they found the country almost entirely forested, and the land had to be cleared of trees before houses could be built and farming

FIG. 13. These men are beating out a forest fire with evergreen boughs. Sometimes brooms or shovels are used for this purpose

could be begun. Whenever a man wished to build a house he had only to turn to the neighboring forest for all the lumber that he needed. Today New Jersey imports twenty times more lumber than it produces, although about two million acres, or 45 per cent of the land area, are still wooded. In past years much of the original forest of New Jersey has suffered from fires and careless lumbering, and the virgin timber has thus been greatly reduced. A State Forest Commission was organized in 1905 and is pursuing a vigorous policy of safeguarding

the forests. Local firewardens watch for forest fires, report them at once when discovered, and take effective means to check them (Fig. 13). Owners of wood lots and forest lands are being trained to care for the trees in a scientific way in order that the best use may be made of all the standing timber. Reckless and wasteful cutting is decreasing, cut-over areas are being reforested, and the present forests are being developed and cared for in such a way as to serve the needs of the people to the best possible advantage. In this way the good work of the Commission is resulting in true conservation of the forest resources of the state.

FIG. 14. One of the most beautiful sections of "The Pines" is near Lakewood, which is a popular resort

Varieties of trees. The southern part of New Jersey belongs to the southern softwood forest of the United States, while the northern part of the state is included within the Appalachian hardwood forest. The trees of the Coastal Plain are mostly pine and scrub oak. In the eastern portion of Monmouth, Ocean, and Burlington counties the Coastal Plain sands support a large growth of pine trees, on account of which the section is called "The Pines" (Fig. 14). In the low-lying swamps and bogs of the plain there are abundant red and white cedars. On the hills and mountains of the northern portion of

the state the forests consist of oak, chestnut, hickory, birch, and other hardwood trees of commercial value.

The State Forest Reserve. More than seventeen thousand acres of woodland are now owned by the state and are under the control of a special state department known as the Division of Forestry and Parks. These seventeen thousand acres are in seven different state forests, two of which are in the Kittatinny Mountain region, while the other five are in the Coastal Plain (see Fig. 17). Each state forest is cared for by a state ranger, whose duty it is to see that forest fires are prevented or speedily checked and that the trees are cared for according to modern scientific methods (Fig. 15). In these state forests experiments in forest culture are being carried on. Through these experiments the people of New Jersey are learning how to use their forest resources to the best advantage. Wasteful cutting is thus discouraged and the best methods of lumbering are demonstrated. Much work is also being done in the reforestation of cut-over mountain slopes and bare watersheds. The state forests are also being used as camping grounds for those who love out-of-door life, and in this way are contributing to the health and happiness of the people.

FIG. 15. This is a fire lookout station on Kittatinny Mountain. From March until December a watcher is on duty here every day except when it rains or when the woodlands are thoroughly wet from a recent storm

The Palisades Interstate Park, which is located along the banks of the Hudson in New York and New Jersey, has an extent of about twelve miles in New Jersey. The two states are jointly developing this beautiful tract of land, conserving its forest resources and its scenic beauty, and opening it up as a camping resort for the people.

ANIMALS AND GAME BIRDS

In many parts of New Jersey there are opportunities for good hunting and fishing. Quail and rabbits are abundant in southern New Jersey, and deer are found in several counties. Many kinds of duck swim in the bays and inlets of the coast. Snipe, mudhen, reedbirds, rail, woodcock, and grouse are also hunted by the sportsmen.

FISHERIES

The mountains and uplands of the northern portion of the state contain many fine trout streams which attract large numbers of fishermen each year. Other game fish which are caught in the inland waters are bass, pike, perch, and pickerel. These waters are constantly restocked with fish from the state fish hatcheries at Hackettstown.

Shore fisheries. Of much greater importance to the state as a whole are the commercial fisheries of the waters along the shore. The gently sloping Coastal Plain extends beyond the coast line of New Jersey, beneath the waters of the Atlantic Ocean, forming the Continental Shelf. The waters that cover this shelf are nowhere more than five hundred feet deep, and these comparatively shallow waters abound in fish. Large numbers of sturgeon, bluefish, and weakfish are caught each year in the bays and offshore waters of New Jersey and sold as food.

In the past the shad fisheries of New Jersey were important and yielded a considerable income to the state. The shad is a fish which swims up the rivers each spring to lay its eggs, and large numbers used to be found in the Hudson and Delaware rivers, as well as in the smaller tidal streams of New

Jersey. In recent years the waters of the Hudson have become so polluted by the waste and refuse from the cities and towns along its banks that the shad fisheries have been given up. For the same reason the yield in the Delaware River has been growing less each year.

The shellfish. The shallow coastal waters of New Jersey make possible another fishing industry which is much more

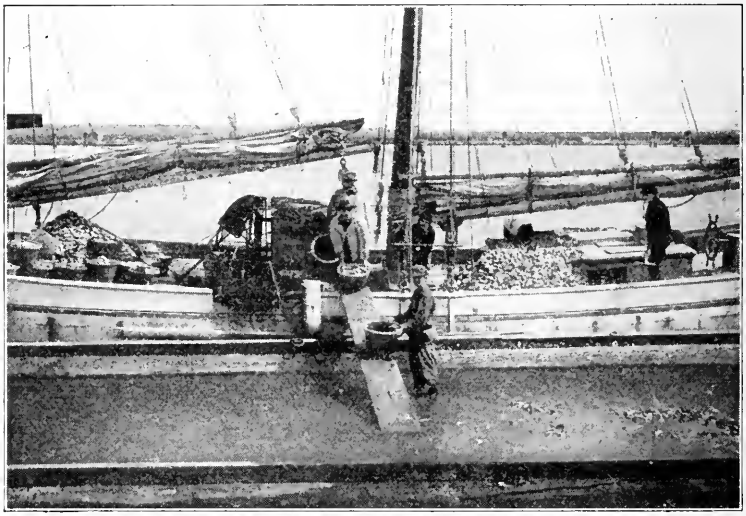


FIG. 16. Large numbers of men in New Jersey are engaged in the oyster industry. These oystermen make their headquarters at Bivalve. Find out the relation between the name of this place and the oyster business

important than the catching of the fish already mentioned. This is the shellfish industry, which is carried on extensively in Cumberland, Cape May, Atlantic, Ocean, Burlington, and Monmouth counties. The shallow waters, partly salt and partly fresh, of the coves and bays here provide food for immense numbers of oysters and clams.

Oysters live by attaching themselves to shells or stones on the sea bottom. They are gathered by means of dredges and tongs which are made especially for the purpose. The oystermen own their plots of oyster beds much as farmers own their

fields, and in many places where the natural growth of the oysters is not enough to supply the demand, they are cultivated (Fig. 16). Clams bury themselves in the soft mud of the coastal flats and are dug at low tide, when the flats are out of water.

The value of the shellfish industry of New Jersey is estimated at more than $4,000,000 each year. Bivalve, on the Maurice River, is one of the greatest shipping centers for oysters in the country. Hundreds of thousands of bushels are shipped from here annually. Other important shipping points are Maurice River, Greenwich, Pleasantville, Absecon, Tuckerton, and Keyport.

SOILS AND AGRICULTURE

New Jersey stands unexcelled in the variety and abundance of crops raised and in the high value of its agricultural products. The summer is warm, the winter is mild, the rainfall is abundant, and much of the soil is fertile and well drained.

The map on page 32 (Fig. 17) shows the types of soils in the different parts of New Jersey. Compare this map with the map showing natural regions following page 8, and notice how the different soil-type areas correspond in a general way with the natural regions. Following is a description of the different soil types by numbers.

Soil type 1. Level to very gently rolling land; soils sandy and sandy loams; parts of the area well drained, other parts poorly drained. Suitable to the production of market-garden crops, tree fruits, small fruits, and cranberries. An excellent poultry-raising area. Irrigation practiced in some parts. Some portions unsuited to agriculture and should remain in forest growth.

Soil type 2. Level and gently rolling land; soils loams to sandy loams, with some marls; generally well drained. Suitable to the production of large crops of truck, potatoes, tomatoes, fruit, and corn. Soils extremely fertile.

Soil type 3. Gently rolling land with some rock ridges; south of the moraine soils loamy, shaly, or clayey; north of the moraine considerable glacial drift, soils frequently gravelly and sandy loams;

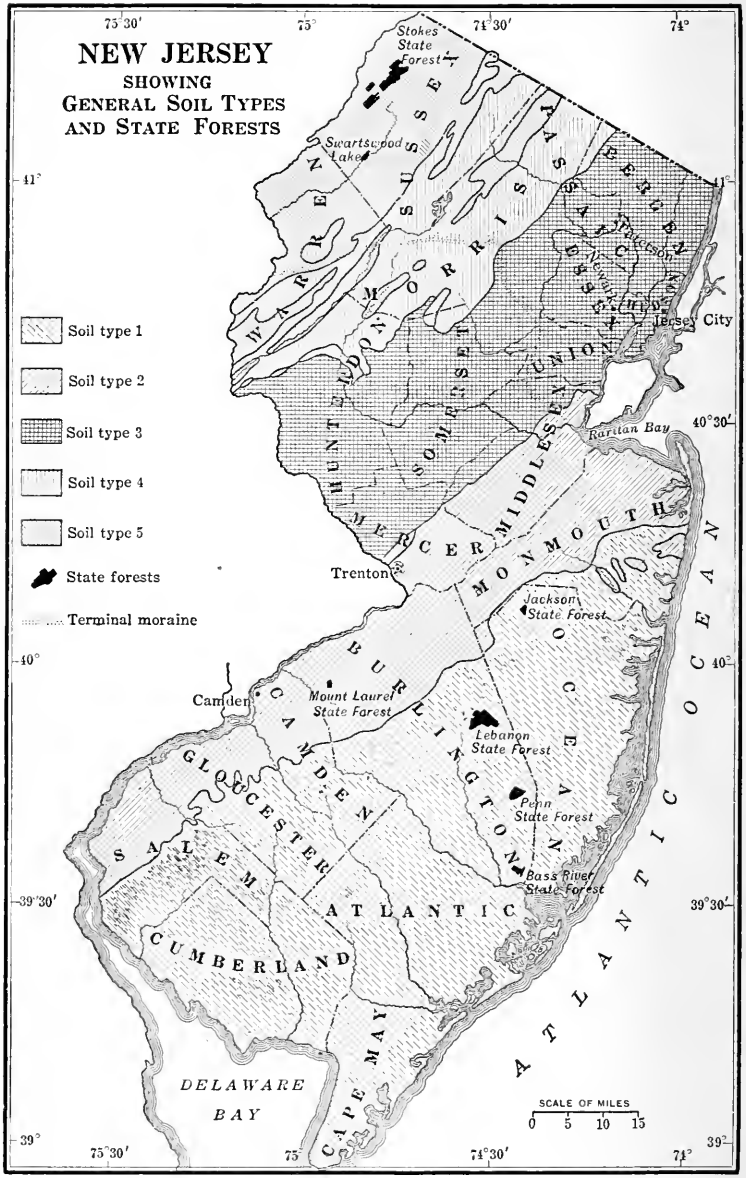


FIG. 17. See pages 31 and 33 for description of soil types by numbers

generally well drained. Soils rich in plant food, capable of producing large yields of hay, corn, grain, and forage crops.

Soil type 4. Rolling to hilly land; soils commonly loams, often stony; some broad, fertile limestone valleys; well drained. Rich pasture lands; gently sloping hillsides ideal sites for fruit orchards and dairy-farming.

Soil type 5. Rolling to hilly land, occasionally mountainous; soils loams and sandy loams; generally well drained; considerable areas of muck lands only partially developed. Hillsides and valleys suitable to orchards and dairy-farming; market-gardening on some of the rich muck lands.

New York and Philadelphia are within a few hours' ride of the largest farms. In addition to these great city markets, the seaside and mountain resorts of the state, where thousands of visitors are entertained at all seasons of the year, provide abundant markets for all kinds of vegetables and fruits.

Market-gardening and truck-farming are carried on in all parts of the state, but especially in the sections near the large cities. Northern New Jersey, with its fertile valleys and never-failing water supply, produces great quantities of hay, corn, grain, and forage crops and is especially fitted for dairying and sheep-raising. New Jersey was among the first of the states to engage in the production of certified milk. Today the average value of dairy cows equals that of any state in the Union.

The sloping hillsides of this northern section provide ideal locations for peach, pear, and apple orchards. The southern section, with its sandy loams, is famous for the production of market-garden crops, tree fruits, berries, grapes, cranberries, melons, peas, beans, potatoes, tomatoes, asparagus, corn, celery, and onions.

Half of the peppers grown in the United States are raised in New Jersey, and one third of the cranberry crop of the world is produced in this state. It ranks first of all the states in the Union in berry-growing and second in the production of asparagus. Three out of the first five sweet-potato-producing counties in the country are in New Jersey.

Dairying. The nearness of all parts of New Jersey to the great centers of population in and around New York and Philadelphia creates an ever-increasing demand for dairy products and makes dairying a profitable industry. The state ranks high in the production of pure-bred dairy cattle. Great care is taken

FIG. 18. The man in this picture is collecting cans of cream for a New Jersey creamery. The farmers place their cans on the roadside platforms where they can easily be loaded on the motor truck

to prevent disease among the stock and to maintain a high standard of quality in the milk and cream.

Northern New Jersey, with its rolling hills and fertile valleys, is an ideal dairying section. The upland portions of the three northern natural regions provide extensive grazing and pasture lands. Excellent crops of corn, hay, and oats are grown in the valleys for feed, and the many streams provide an abundance of water. Nearly every farm in this northern section of the state has its dairy herd, with its clean, modern barn, and its silo for the storage of winter feed. Every day long trainloads of fresh milk and cream are sent to the city markets and to the creameries and condenseries (Fig. 18).

The Coastal Plain of southern New Jersey also has several large dairying areas. One of these dairying centers is located in the northwestern parts of Monmouth and Burlington counties, not far from Trenton. Another is in the southern part of the state, in Salem County and the northern portion of Cumberland County. In these areas large quantities of corn are grown in the well-drained, sandy soils and used for ensilage for winter feeding. The season when the cows can be pastured out of doors is longer here than in northern New Jersey owing to the greater mildness of the climate.

Although dairying is already one of the leading industries of New Jersey, there is every reason to believe that it will increase in years to come. The population of the industrial and commercial cities within and bordering the state is constantly increasing, and with greater numbers of people the demand for dairy products grows each year. With its broad areas of rolling pasture land, its fertile soils, and its never-failing water supply, New Jersey possesses all the necessary conditions for further expansion of the dairying industry.

Market-gardening. Market-gardening and truck-farming are another form of agriculture which springs up in response to the demands of large centers of population for fresh vegetables. It is not surprising, therefore, that large areas of the agricultural lands of New Jersey are devoted to the production of vegetables of all kinds. The chief market-gardening and trucking sections are in the districts surrounding the large cities, where the transportation of garden products to market is made easy by the many railroads and motor highways.

The growing of vegetables requires good soils and a plentiful supply of water. Both of these conditions are found in New Jersey, although the soils differ considerably in the various market-gardening districts. In addition to these first necessities, the market gardener must exercise much care in the fertilization and drainage of his soil and in the planting, cultivating, and harvesting of his crops. Furthermore, he must be able to transport his products to market quickly and without danger of damage to them through excessive heat or cold.

In northern New Jersey the principal market-gardening district is in the northeastern part of the state, extending from Bergen County southward through Essex and Union counties to Middlesex County. The soils in this district are largely loams, some of which are rather heavy for market-gardening, and therefore require the careful use of lime and fertilizers

FIG. 19. These men are harvesting the spinach crop on a Coastal Plain truck farm in southern New Jersey

for the successful growth of vegetables. Under skillful cultivation, however, even the heaviest loams produce such excellent vegetables that it is well worth while for the gardeners to make use of them. This would not be true if the great metropolitan district, with its millions of people, were not close at hand to provide a ready market for all the products that the gardeners can raise. Almost every kind of vegetable is grown in this section—sweet corn, cabbage, cauliflower, spinach (Fig. 19), celery, asparagus, tomatoes, lettuce, and many others.

A second market-gardening belt extends from north of Trenton, in Mercer County, southward along the Delaware River

into Salem County. In general the soils of this district are sandy and much lighter than those of the northern district. The natural conditions are therefore somewhat more favorable to the market-gardening industry. The gardeners in this section find their markets in the line of cities and towns that stretches from Trenton southward along the river. Here also

FIG. 20. The baskets in this view contain tomatoes raised on southern New Jersey truck farms. They are here shown piled up on a wharf on the Cohansey River awaiting shipment

a great variety of products is raised, among them peppers, sweet potatoes, cantaloupes, watermelons, tomatoes (Fig. 20), peas, beans, and sweet corn.

Still another market-gardening belt is found in the eastern part of the Coastal Plain, bordering the ocean from Sandy Hook to Cape May. Here the production is chiefly for the large numbers of visitors who are entertained at the ocean resorts each year, and is carried on only in the months when the demand makes it worth while. An exception to this general

rule is found in Monmouth County, which helps to supply the New York market and therefore finds a ready sale for its products at all seasons. The light, sandy soils of this coastal district are favorable to the industry, and as the demands of the cities increase, more and more acreage will undoubtedly be devoted permanently to market gardens and truck farms.

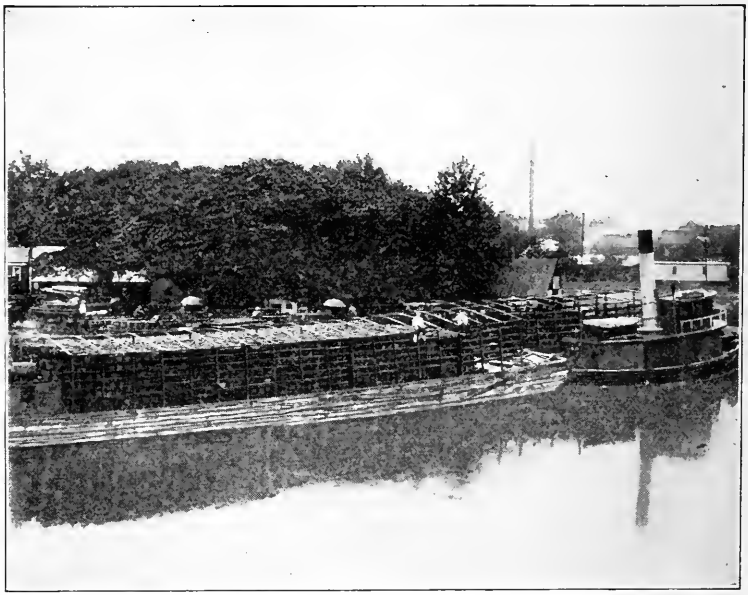


FIG. 21. The tomatoes shown in Fig. 20 have been loaded on a barge and are being towed down the Cohansey River to Delaware Bay. They will be taken up the Delaware River to a soup-manufacturing plant at Camden

In addition to raising vegetables for city consumption, many New Jersey market gardeners send their products to the canning factories, where the vegetables are put up in air-tight tins and sent to all parts of the world. More than sixty canning factories, one of these the largest in the United States, take care of the surplus products which are raised and are not needed for immediate consumption (Figs. 20, 21). The canning industry is especially important in the central and southern portions of the state.

The fruit industry. All the temperate-zone fruits—peach, pear, apple, cherry, quince, grape, bush and vine berries—can be grown successfully in New Jersey, and the state is noted for its fine orchards. In addition to suitable soils, fruit-growing as a business demands a climate that is free from early killing frosts. The climate of New Jersey, tempered by the nearness

FIG. 22. Some of the men in this picture are picking apples while others are sorting them and packing them in barrels

of the Atlantic Ocean, meets this demand and thus makes the production of fruit possible in all parts of the state.

The well-drained hillside soils of the Appalachian and Piedmont regions in the northern part of the state support extensive orchards of apple and peach trees. Apples and peaches are also grown in many parts of the Coastal Plain (Fig. 22). The chief centers for the production of apples are Newton, Blairstown, Moorestown, Middletown, Cranbury, Beverly, Hackettstown, Glassboro, and Bridgeton.

The peach orchards of New Jersey produce fruit of exceptional color and flavor, rivaling the peaches of Delaware and Georgia. Vineland, Hammonton, Bridgeton, Glassboro,

Moorestown, Beverly, Hopewell, and Lebanon are the chief centers of the commercial peach-growing industry.

The production of berries is an important industry of the state and is carried on for the most part on the Coastal Plain, where the sandy loams and mild temperatures provide perfect

FIG. 23. At harvest time lines of wagons and trucks loaded with potatoes can be seen at the railroad sidings in New Jersey. Each driver is waiting his turn to transfer his load to the freight cars

growing conditions. Blackberries, dewberries, raspberries, gooseberries, and strawberries are extensively grown in Atlantic, Cumberland, Camden, Burlington, and Monmouth counties.

Grapes are raised in the southern half of the Coastal Plain, where the temperatures are the warmest of the entire state. The principal producing sections are Burlington, Atlantic, and Cumberland counties.

Potatoes. In proportion to its size New Jersey ranks foremost of all the potato-producing states. Three hundred to

three hundred and fifty bushels to the acre is not an uncommon yield in some sections. This is the most valuable of the special crops raised in the state (Fig. 23).

The inner portion of the Coastal Plain is the great potato-producing area of the state, and the light, sandy soils are

FIG. 24. Often the boys and girls help in the cranberry picking, working across the bogs in long rows

particularly well adapted to sweet potatoes. Monmouth, Middlesex, Burlington, and Salem counties lead in the production of white potatoes. The chief centers for the famous "Jersey Sweets" are Vineland, Swedesboro, Cedarville, Newport, and Dividing Creek.

Cranberries. The low, marshy lands bordering the small streams in the counties of Ocean, Burlington, and Atlantic make excellent cranberry bogs. The cranberry-grower first clears his land, then plows and harrows it, and finally digs trenches through it. Then the bogs are covered with a thick layer of sand, and the little plants, or "cuttings," are set out in long rows.

J

Early in the fall the bogs are flooded to prevent the tender little plants from being killed by the winter frosts. Dikes, or walls, are built around the bogs to keep the water from running off. Late in the spring, when all danger of frost is over, the bogs are drained, and through the warm summer the plants grow and the cranberries mature. In the autumn the pickers go over the fields with scoops and gather the berries (Fig. 24).

In years when sugar is plentiful the cranberry bogs yield a large revenue to their owners. If sugar is scarce or the price unusually high, the demand for cranberries is much less, for the berries are so sharp to the taste that they cannot be used as food without being sweetened.

MINERAL RESOURCES

Iron. In the early colonial days the mining of iron ore was one of New Jersey's greatest industries. During the last forty years, however, the industry has declined in importance because of the great expense of mining the ore from the deep beds, some of which are a thousand feet underground. In other parts of the country iron ore had been discovered at or very near the surface of the ground and could be mined so much more cheaply than the New Jersey ores that the industry in this state could not be carried on with profit. Within the last few years there has been a slight revival of New Jersey iron-mining, and as time goes on and the demand for iron increases it is believed that New Jersey may again take a place of importance among the states in this industry. At present iron ore from the Highlands of New Jersey is being smelted at Oxford in Warren County, at Dover and Wharton in Morris County, and at Ringwood in Passaic County.

Zinc. New Jersey is the second zinc-producing state in the Union, being surpassed only by the state of Oklahoma. The mines at Franklin and Ogdensburg in Sussex County contain the richest zinc ores as yet discovered in the world (Fig. 25). Many other kinds of minerals are found with the zinc ores, some of which are of commercial value.

The chief products from zinc are oxide of zinc and spelter. Oxide of zinc is extensively used in the manufacture of rubber and in the making of paints. Zinc spelter is metallic zinc, which is used for covering iron and steel to prevent the rusting of these metals. This process is known as galvanizing. The spelter is also an important article in various arts and trades.

FIG. 25. A zinc mine at Franklin in Sussex County. Locate Franklin on the map following page 8 and note in what natural region it is situated

Building stones. In addition to its mineral resources of iron and zinc, New Jersey has several kinds of rock which are quarried extensively for building and other purposes. Granite and limestone of good quality for buildings are quarried in the Appalachian Highlands region. These two stones are also used to some extent for monuments. The slate of the Appalachian region is being quarried in increasing quantities for use in roofing and for making slate products. The blackboards in our schoolrooms are among the many useful articles that are made from slate. Can you name other slate products?

The sandstone of the Piedmont Belt is also worked to some extent for building purposes. Northern New Jersey contains some marble and serpentine, which are quarried for purposes of interior decoration.

Cement industry. In the western part of the Highlands, near Phillipsburg, the production of cement has become an important industry (Fig. 26). The limestone and shale of this region are ground, mixed, and fused to make the cement which is used in many kinds of construction work. In the last few

FIG. 26. In the foreground of this picture is the quarry of a large cement manufacturing company at Alpha. Notice the inclined railway by which the rock materials are taken to the plant

years cement has to a large extent taken the place of granite, limestone, and sandstone for building purposes, and undoubtedly the rich stores of New Jersey limestone and slate will be drawn upon still more extensively for this purpose in the future.

Trap rock. From the quarries of the Piedmont Belt great quantities of crushed stone, particularly trap rock, are used for road-making, railroad beds, and building purposes. The hardness of this rock and its uniform size when crushed make it especially valuable for road-building (Fig. 27).

Glass sand. The Coastal Plain furnishes sands of many kinds used for building and molding. In the southern part

sand for glassmaking is found in abundance. This sand contains fine quartz, which is mixed with other substances, such as lime, soda, and saltpeter, to make an excellent quality of glass. Many glass factories have been erected near these deposits—at Millville, Glassboro, Salem, Bridgeton, and Vineland, where

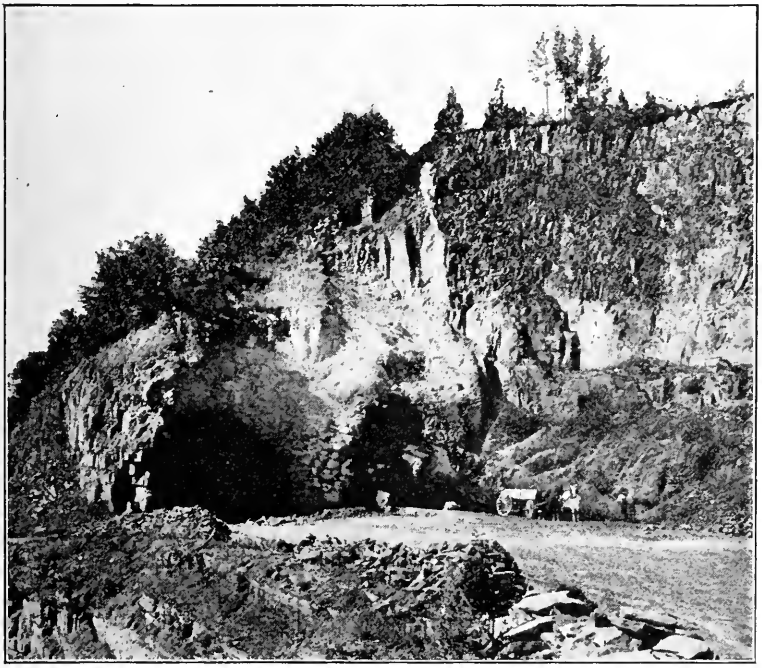


FIG. 27. One of the striking features of the trap-rock quarries is the columnlike appearance of the rock

thousands of people are employed in the making of all kinds of glass articles. Try to find out about the art of glass-blowing.

Clay deposits and products. One of the most valuable mineral products of New Jersey is the clay of Mercer and Middlesex counties. In color the clays are either blue, brown, black, red, white, or yellow. These clay beds are to be found about ten feet beneath the surface and range from four to forty feet in thickness. The richest clay beds are near the mouth of the Raritan River—at Perth Amboy, Woodbridge, South Amboy,

and Sayreville (Fig. 28). Here are dug the high-grade ware, fire, and terra-cotta clays, as well as many cheaper varieties. Here, too, are located great factories for the manufacture of fire brick, floor tile, hollow tile, ornamental terra cotta, and building brick. Perth Amboy is the greatest center for brick tile and terra cotta in the state. Locate Perth Amboy on your map.

FIG. 28. This is a clay pit at Woodbridge. Notice the depth of the layers of clay as compared with the height of the men and horses

Trenton ranks second among the pottery centers of the United States. It has over forty potteries, yielding an annual output valued at more than $9,000,000. While about one fourth of all the clay mined in New Jersey is shipped away, finer clays from the Southern states and New England are imported for use at Trenton. Here are produced the heavy sanitary ware from the Mercer clay and the delicate china from the imported clay.

Potash. Along the inner margin of the Coastal Plain, extending across the state from near Sandy Hook in the northeast

to the Delaware River near Salem in the southwest, is a belt of rock material known as greensand marl. The greensands of this belt contain potash, a mineral substance which is used in the manufacture of fertilizers. As yet but little use has been made of this mineral resource of New Jersey on account of the difficulty of extracting the potash from the rock grains in which it is found. Scientists are perfecting processes by which the extraction may be made economically, and when these processes are put into general use the New Jersey greensands will provide a valuable source of potash supply.

MANUFACTURING INDUSTRIES

Advantages for manufacturing. The industrial prominence of New Jersey is due to its favorable geographical position in the center of the area of densest population in the United States and at the eastern gateway of the whole country. This position has led to the development of great lines of transportation which carry the raw materials and the manufactured products of the state directly to the world commercial markets of New York and Philadelphia. The water front of northern New Jersey on the Hudson River, New York Bay, Newark Bay, Staten Island Sound, and Raritan Bay, and that of southern New Jersey on the Delaware, offer abundant space for wharfage, making shipment by water easy (Fig. 29).

These advantages alone, however, would not make New Jersey a great manufacturing state. Its own rich natural resources and its nearness to the coal fields of Pennsylvania have been very important factors in its development. Raw materials for some of the leading industries are found within the limits of the state itself—clay for the pottery works, glass sand for the glassmaking industry, and zinc ore for the zinc smelters and the galvanizing plants. Other raw materials, such as petroleum, rubber, iron, and steel, are imported into the state in large quantities. The possession of certain raw materials and the fact that others may be imported easily have aided greatly in the development of manufacturing.

In addition to an abundance of raw materials and easy means of transportation, manufacturing demands power to turn the wheels in the mills and factories. New Jersey is fortunate in having water power which can be transformed into electric power for this purpose. Electric power and steam power can also be created by burning coal, and again New

Fig. 29. These factory buildings are typical of the hundreds of manufacturing plants that line the industrial water front of northern New Jersey

Jersey is favored by its nearness to the great coal fields of its neighbor state, Pennsylvania, from which it can obtain its coal supplies easily and cheaply.

A final necessity for manufacturing is a good supply of labor. The large cities of New York and Philadelphia receive thousands of immigrants from Europe each year, many of whom settle in the neighboring cities of New Jersey and earn their living in the factories. Many of these immigrants are unskilled workers; others have learned some special trade in the home country which helps them to fill positions requiring more training. Besides the immigrants from other countries,

the great commercial cities of the eastern seaboard attract from other parts of the United States large numbers of people who wish to enjoy the pleasures and amusements of a city while earning their living. Thus there is seldom a lack of industrial workers in the New Jersey manufacturing centers.

The advantages for manufacturing are so great in New Jersey that new industries are constantly being established and manufacturers are always seeking new sites for factories. Land has become so valuable around the industrial centers that the market gardeners are selling their farms for factory and residential sites and are moving farther away from the cities. Much low, swampy land that formerly was thought to be good for nothing is now being drained and improved for the same purpose. The value of the reclaimed areas is so great when devoted to industrial uses that the expense of reclamation is well warranted.

Mosquito-controlled marshes. A large portion of the area of New Jersey is affected by mosquitoes. The salt-marsh mosquitoes are the worst pest, for they fly from thirty to forty miles and cause discomfort by day as well as by night. Indeed, they make life so uncomfortable that they lower the land value of the farms and the seashore resorts. Many business firms from New York and Philadelphia would invest more money in the development of New Jersey's resources if the mosquitoes were suppressed. Control of this nuisance depends upon destroying the stagnant marshes and swamps, which are the breeding places of the insects. This can be done by digging deep, narrow ditches with outlets to the ocean which allow the tidal waters to flood and drain the marshes each day. The incoming tide brings with it a multitude of fish which eat the young mosquitoes, and the outgoing tide scours the marshes, carries away all stagnant matter, and kills more of the young mosquitoes by draining off the water, without which they cannot live. By draining and cleansing the salt marshes and destroying the mosquitoes in this way large areas of land may be made available for use as sites for factories and industrial plants.

A plan to rid the state of its salt-marsh mosquitoes in five years has been indorsed by the State Chamber of Commerce and various business interests. In the metropolitan district of northern New Jersey lies a salt-marsh area of more than twenty-eight thousand acres. Here the destruction of the mosquitoes has been taken up in earnest. About 60 per cent of this vast marsh is already under control, and industrial development of the area has begun. The success of the plan in this section of the state shows clearly the benefits which will follow the control of the salt-marsh mosquitoes in other parts of the state. With the assurance of greater freedom from these pests, the waste lands of New Jersey will soon be valuable sites for homes and factories (see Fig. 30).

Rank in manufacturing. Although New Jersey is forty-sixth among the states in area, it stands sixth in the total value of manufactured goods. In the variety of industrial products it exceeds every other state.

New Jersey takes first rank among the states in the manufacture of silk goods, linoleum, and sewing machines, in the smelting and refining of copper, and in the refining of petroleum. It ranks second in the manufacture of chemicals, rubber products, pottery, terra cotta, brick, and other clay products, and third in the manufacture of electrical supplies. Other products are woolen goods, jewelry, pens, paints and varnishes, leather goods, wire and wire rope, and phonographs.

Shipbuilding. Before the Civil War ships were built only of wood, and for this reason New England, with its vast forests, was the early shipbuilding center of the United States. After the famous fight between the *Monitor* and *Merrimac* people began to build iron and steel vessels. New England has no resources of iron and coal, and so it was natural that the shipbuilding industry should move southward to points on the Atlantic coast which were nearer the great Appalachian stores of these important raw materials. Today the shipbuilding yards are located in many important cities along the eastern seacoast, from Maine southward, but the center of the industry is on the Delaware River.

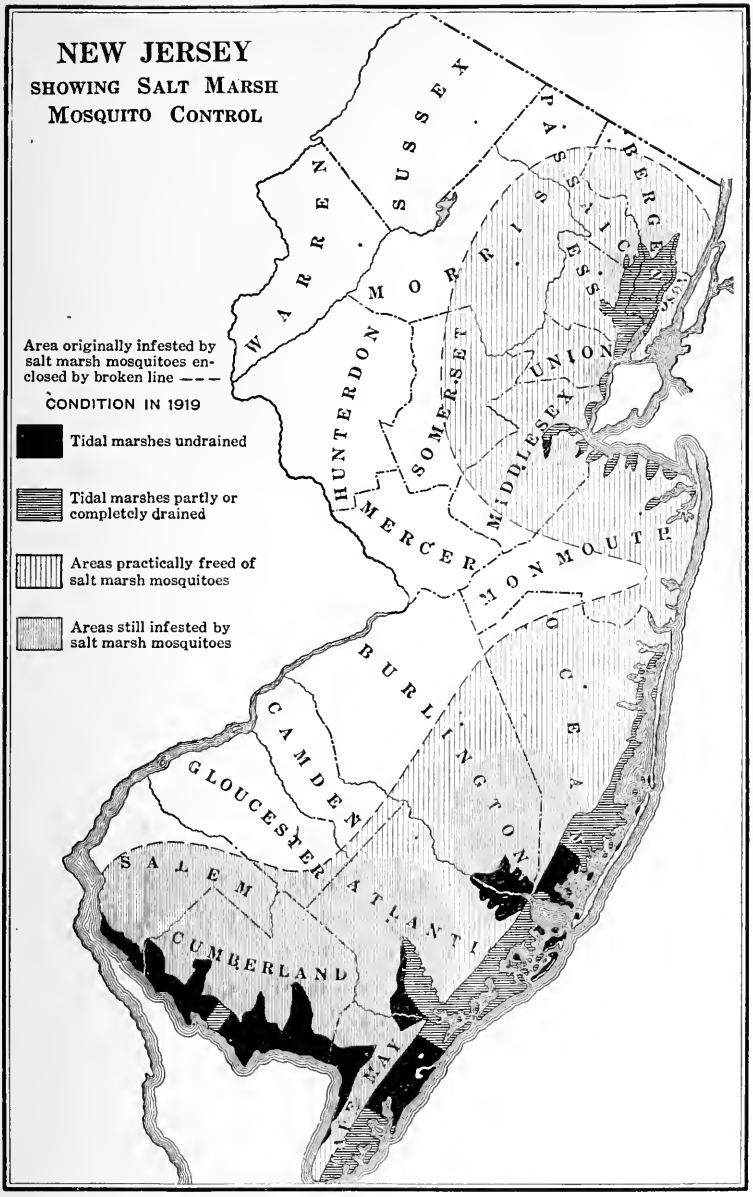


FIG. 30. Study this map carefully. Note the extent of the area originally infested by mosquitoes and the progress which has been made in ridding the different parts of the state of these pests

New Jersey has many shipyards, one of which ranks today as the largest and most complete yard in the world. This yard, which employs many thousand workers, is located on the Delaware River front at Camden. During the World War its shipways were increased from ten to twenty-eight, and it delivered more ships than any other yard in the country. One of these boats broke all records for speedy construction. This was the collier *Tuckahoe*. On the twenty-seventh day after the laying of the keel had begun, the *Tuckahoe* was launched, and on the forty-second day it docked at Boston with a load of coal from Baltimore (Figs. 31, 32). This rapid shipbuilding was made possible by a modern method of construction called ship "fabrication." Every part of the ship, exact in size and shape, is made in the steel factories of the shipbuilding plant. These parts are then assembled and fitted together, forming the complete boat.

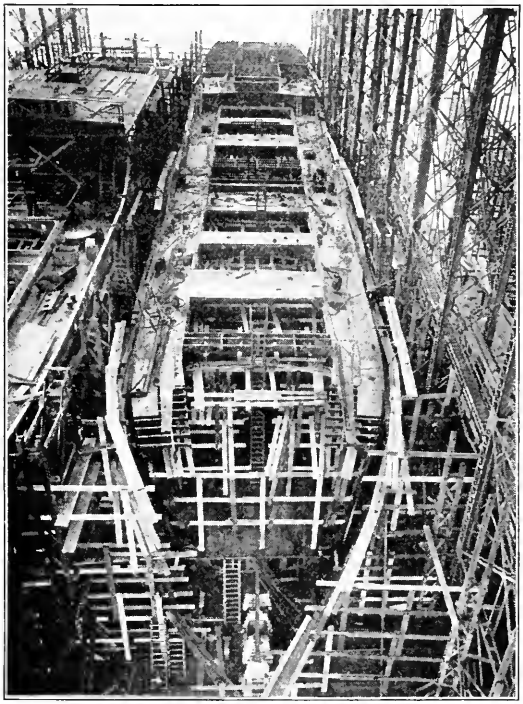


FIG. 31. The *Tuckahoe* on the thirteenth day of its construction. (Courtesy of New York Shipbuilding Corporation, Camden, N. J.)

Destroyers, battleships, oil tankers, cargo steamers, passenger steamers, tugs, ferryboats, car floats, and lighthouse tenders are now built in this way.

Oil refining. New Jersey has the greatest oil refineries in the world. The large refineries located at Bayonne and Jersey City receive the crude petroleum by means of pipe lines from the fields of Pennsylvania, Ohio, Texas, and Louisiana. A series of high-power pumping stations are used to force the oil through the long pipe lines and into the huge steel tanks at the refineries. Crude oil is also brought to the ports of New Jersey from Mexico by tank steamers.

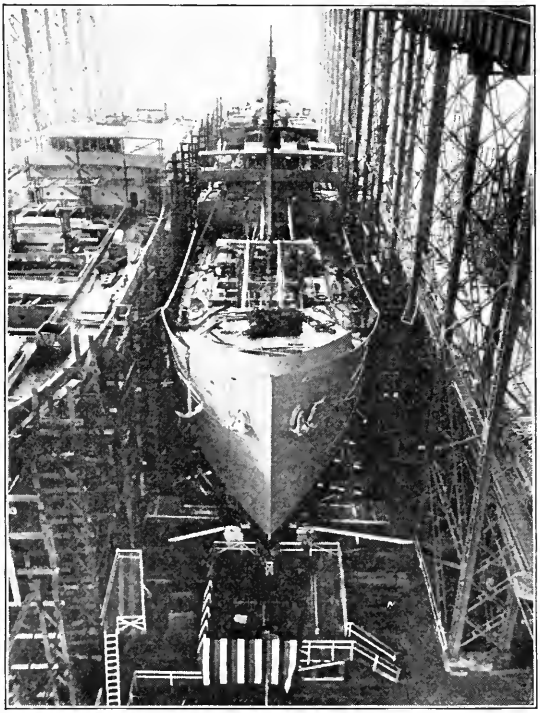


FIG. 32. The *Tuckahoe* on the twenty-seventh day, just ready for launching. (Courtesy of New York Shipbuilding Corporation, Camden, N. J.)

In the great refining plants of New Jersey the crude oil is treated in such a way as to yield a large number of useful products. The four main products are gasoline and the lighter oils, kerosene, lubricants, and fuel oil. The by-products of petroleum are vaseline, paraffin wax, road oil, asphalt, and hundreds of other useful substances. By refining the crude petroleum and getting from it all these different products each gallon of crude oil can be made to serve a far greater number of useful purposes than if it were burned or otherwise used in the form in which it comes from the ground. This is true conservation of petroleum (Fig. 33).

Many pages of this book would be needed to name all the uses of petroleum products. Gasoline is one of the world's chief sources of motive power and was enormously important in the World War, where it was used in the transportation of troops, supplies, and munitions during the field operations. Gasoline makes it possible to move by motor truck immense

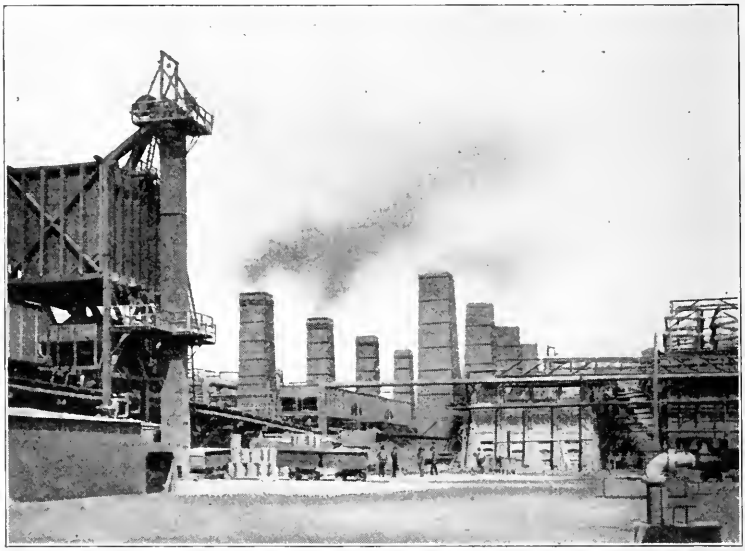


FIG. 33. An oil-refining plant at Bayonne, where, by a heating process, the lighter oils are separated from the petroleum

quantities of freight from producers to distributing centers in New Jersey. Kerosene has proved to be one of the great civilizing factors in the progress of the world. Lubricants are absolutely essential to the smooth running of machinery of all kinds. Fuel oils have greatly increased the power of our navy, making it possible for ships to go much greater distances without replenishing their fuel supply.

The petroleum products of New Jersey are distributed to all parts of the world by railroad and steamship. Long lines of tank cars carry illuminating oil to the cities of the United States. A great fleet of boats is in constant use transporting

the products to foreign countries. Every year the world needs more of these petroleum products, and the New Jersey refining industry will undoubtedly continue to increase.

Silk. Silk manufacturing is the most important industry of New Jersey. The manufacture of sewing-silk was begun in Paterson in 1839, and from this beginning has grown the entire

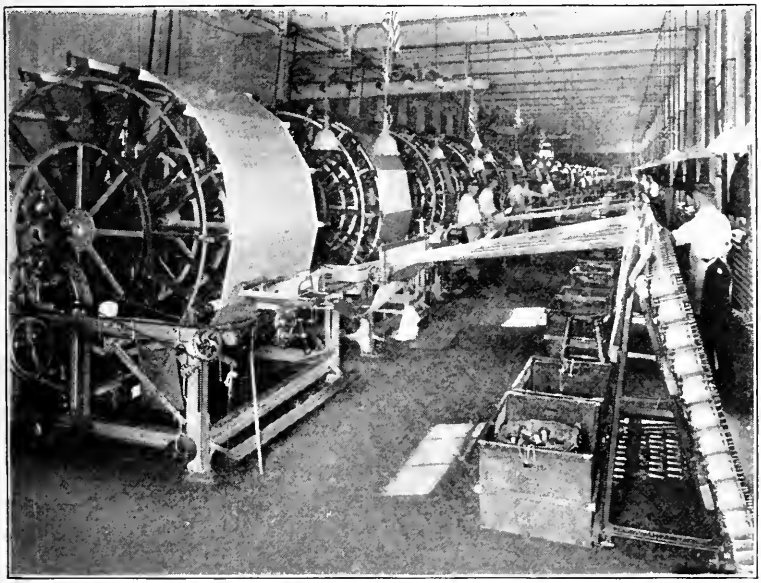


FIG. 34. This is the warping room in a Paterson silk mill. The silk threads are wound off the spools at the right and on the creels at the left

industry of New Jersey. In the early days sewing-silk was sold in skeins, for no one had thought of using spools. Later Elias Howe, the inventor of the sewing machine, found that it was impossible to feed his machine from skeins, and this led to the winding of sewing-silk on spools. The first silk thread used on the newly invented sewing machines came from Trenton.

Raw silk is not produced in the United States, and therefore the raw materials for this industry must be imported from foreign countries. The silk fiber is obtained from the cocoon of

the silkworm, which is raised in China, Japan, and the countries bordering the Mediterranean Sea. The care of the silkworm and the preparation of the fibers require much time and patient work and can only be carried on profitably in countries where labor is plentiful and cheap.

All the raw silk used in the silk manufacturing of the United States comes from Japan, China, Italy, and France. In this country it is woven into broad silk, silk goods, and ribbons. The industry is carried on chiefly by women, as the work is not heavy. Many mothers and daughters work side by side in the mills of Paterson, which is the leading silk-manufacturing city in America. The dyeing and finishing of silk are companion industries. New Jersey has over nine hundred silk-manufacturing concerns, more than half of which are located in Paterson, where nearly thirty thousand people depend upon this industry for their living (Fig. 34).

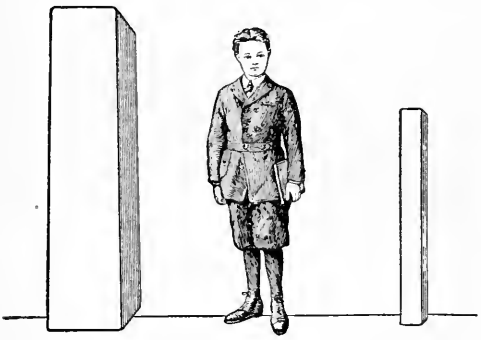


Fig. 35. This drawing shows the size of an ingot and a billet compared with a boy. The ingot is at the boy's right and the billet at his left

How wire is made. Wire is a thread of metal, usually of steel or copper. It may be round, flat, or irregular in shape. The steel is heated until it is very hot and flows like water. Then large ladles pour this "cooked," or liquid, metal into molds to form ingots, or blocks of metal. These ingots are heated and reduced in rolling mills to a smaller size called billets (Fig. 35). The billets are again heated and reduced in a rod mill to wire rods about the thickness of a lead pencil. The wire rods are allowed to cool, and then they are drawn or rolled "cold" until they are transformed into long threads of wire of any desired thickness. The market value of a ton of steel is about $60, but when drawn into wire thinner than a human hair

its value is increased to about $100,000, and its length becomes so great that it would reach three times around the world.

Many common things are made from wire—door handles, pins, window screens, nails, baskets, and hundreds of other articles. Wire is also used for fences and for telephone, telegraph, and trolley lines. The armies in the World War used great quantities of wire for entanglements to protect their trenches.

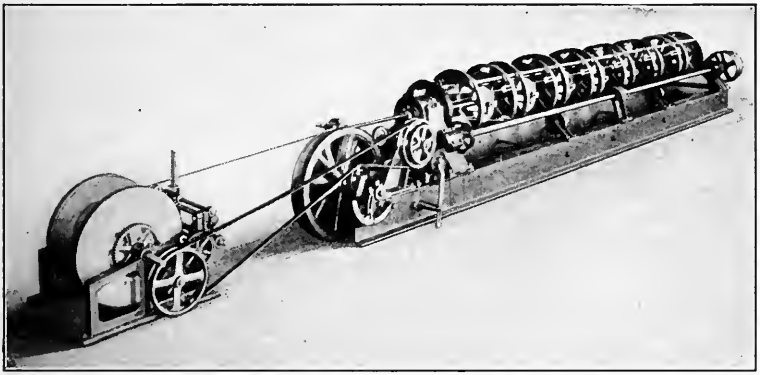


Fig. 36. A machine which twists the wires into strands

In making wire rope a certain number of wires are pulled through a rapidly revolving machine which twists them into one cord, or "strand" (Fig. 36). These strands are then pulled through a large machine which twists them into rope. Wire rope is one of the most important materials used in engineering construction. It is used in the mining of coal and metals, in the rigging of ships, in the building of high buildings, and for elevators and aëroplanes (Fig. 37).

Wire rope enabled the American navy to lay the North Sea mine barrage, which "bottled in" the German submarines. No sea mines can be laid without heavy anchors. Over eighty million feet of wire rope were used to attach the anchors to the mines in this barrage. New Jersey produced about one third of the wire used in this great naval feat. Thousands of tons of wire shipped to all parts of the world are produced each year at Trenton and Roebling.

The manufacture of steel pens. Camden has the oldest and largest steel-pen manufacturing concern in the United States. More pens are produced here than in all the other factories of the country combined. The school children of the United States use many millions of pens each year.

The manufacturing of steel pens is a rather complicated process. Steel is received at the factory in sheets of about one fortieth of an inch in thickness. These sheets are cut into strips, heated, and dipped in acid to remove the scales.

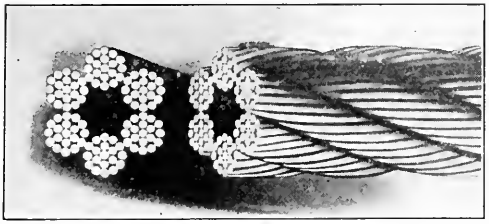


FIG. 37. A piece of wire rope showing how the strands are twisted

A rolling mill reduces these strips to the thickness required for the making of pens. The rolls are kept under a stream of cold water, so that the steel is absolutely cold as it is rolled.

Machines cut out the blanks, or flat pens, and other machines pierce the holes in the center near the point and cut the side cracks (Fig. 38). Marking machines stamp the name and numbers on them. A raising process shapes the pens from the flat blanks into the rounded pens. They are then heated and plunged into oil, which is a part of the oil-tempering process. The dirt and scales are then cleaned off with lime and acid. The points are all ground by hand.

Great skill is required in the slitting room, where the points are slit. If the pen is slit slightly to one side it is of no value whatever. The polishing cylinders remove from the pens all roughness caused by passing through the machinery. Pens are finished either in bronze, blue, gray, or black, as may be required. They are finally plunged into a solution of lacquer and then rapidly revolved in wire baskets under heat, which causes the lacquer to harden and gives the pens a high finish.

At last the pens are ready for the examining, or inspection, room, where each one is examined that no defective pens may

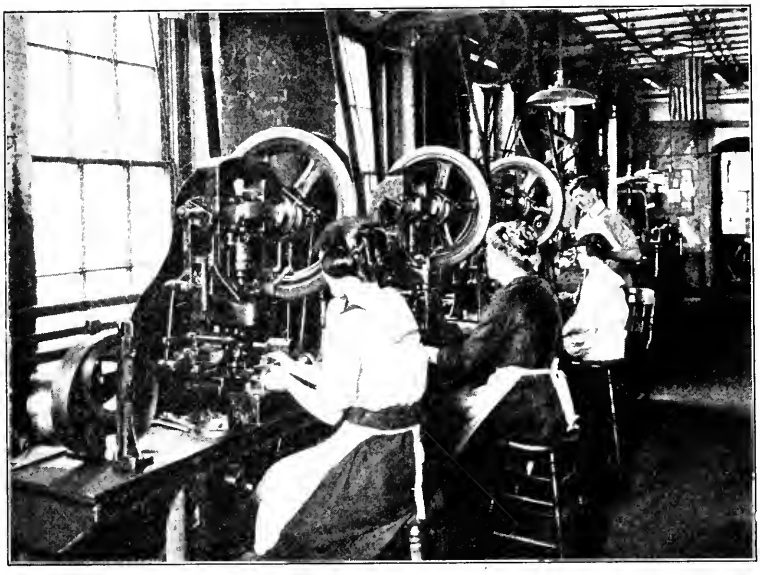


FIG. 38. These women are at work cutting steel pens in a factory in Camden

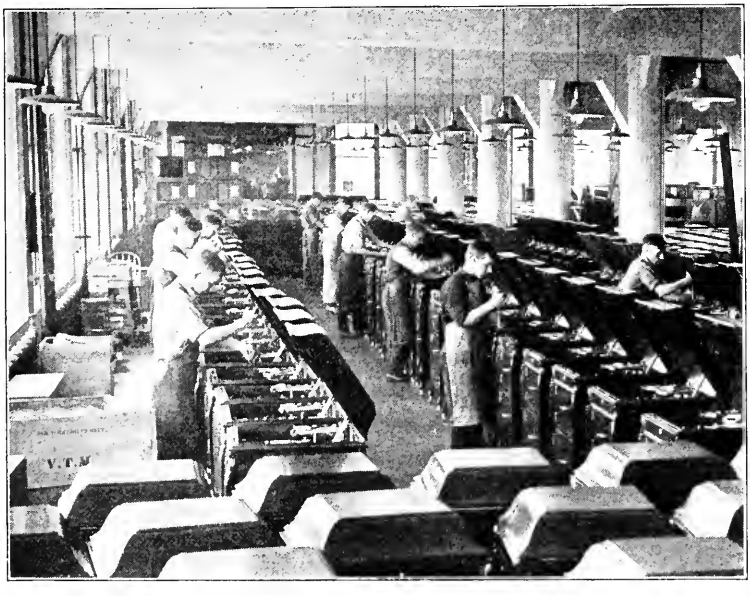


FIG. 39. In this room the mechanical parts of the phonographs are finally adjusted to make the complete machine

leave the factory. They are then sent to the boxing room, where they are weighed, packed in boxes, and labeled. These New-Jersey-made pens are shipped to all countries, even to far-distant lands such as Finland and Japan.

The phonograph. The phonograph, which records and reproduces the tones of musical instruments and of the human voice, is a New Jersey invention which has brought pleasure to millions of people all over the globe. To every continent and to every climate the phonograph has taken its message of song and cheer. Large factories for the manufacture of phonographs and records have sprung up in New Jersey. One factory located at Camden consists of twenty-two fireproof buildings and has a floor space of one million eight hundred thousand square feet. Ten thousand people are employed here in producing talking machines (Fig. 39). The yearly output is so great that if the machines were piled one on top of another they would reach one hundred and fifty miles in height. If the records manufactured in one year were placed edge on edge they would reach twenty-one thousand miles, more than seven times the distance from New York to San Francisco.

TRANSPORTATION

Navigable waters. Nine tenths of New Jersey is bounded by water bodies. With the exception of the boundary between New Jersey and New York State it is surrounded by water, the greater portion of which is navigable. The most important commercial waterways of New Jersey are the Hudson River, New York Bay, and Raritan Bay on the northeast, and Delaware Bay and the Delaware River on the southwest. The fact that the Atlantic coast of New Jersey has no good harbors from Sandy Hook to Cape May would be a great disadvantage to the state if it were not for the two great river mouths with their deep water channels on the northeast and southwest. By means of these two waterways the greatest ocean vessels can reach the docks and wharves of the largest cities of New Jersey, making them commercial seaports of great importance (Fig. 40).

Along the Atlantic coast, inside the line of sand bars, is a safe inland waterway which extends from Cold Spring Inlet at Cape May to the northern end of Barnegat Bay. This inland waterway, which is one hundred and sixteen miles long, is being extended from Barnegat Bay northward by canal to the

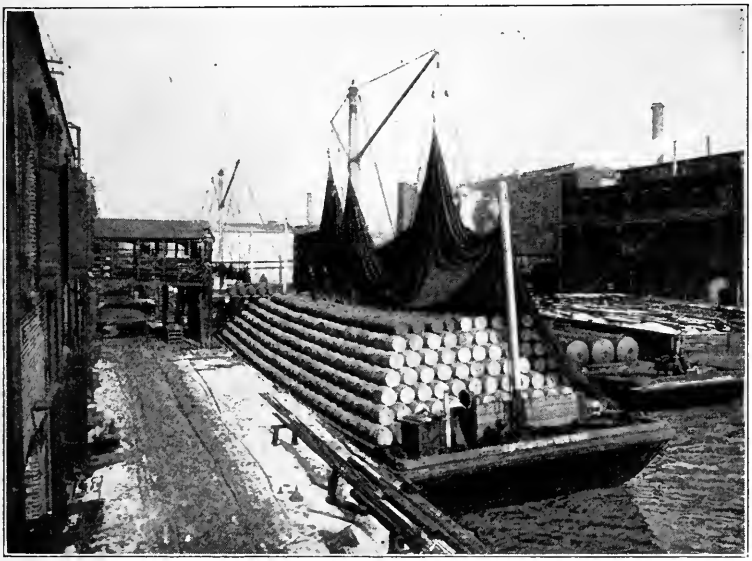


FIG. 40. Barges are very generally used for transporting freight for short distances in New York Bay and the waters surrounding northeastern New Jersey. This barge is loaded with oil barrels at Bayonne

Manasquan River. When completed it will provide a safe navigation route for coastwise vessels of six-foot draft or less.

Canals. Early in the industrial life of the state, before the extensive development of the railroad systems, the need for transportation led to the building of the Morris Canal across the northern part of the state, between the Delaware River and New York Bay, and the Delaware and Raritan Canal farther south, connecting the two rivers of the same names. These canals were used extensively for the transportation of freight until railroads were built and put into general use. At the present time the canals are practically abandoned, for

freight can be moved much more quickly over the network of railroads that cover the state.

The proposed inland waterway. The advantages of an intercoastal waterway, in the form of a canal at sea level which would connect Raritan Bay with the Delaware River, are now

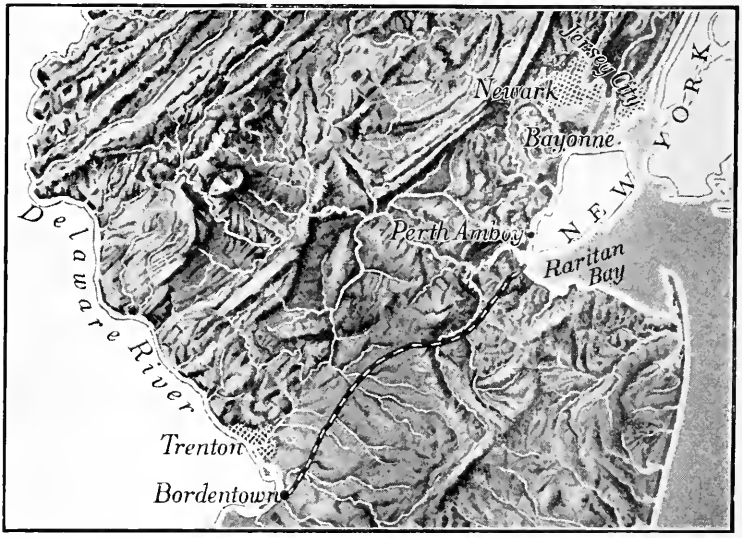


FIG. 41. The black-and-white line crossing this map from Raritan Bay to Bordentown shows the route of the proposed inland waterway across New Jersey

under consideration. The water route from the Battery, at the lower end of New York City, to the wharfs of Philadelphia is 274 miles. This route is along a very dangerous strip of coast from Sandy Hook to Cape May, where wrecks frequently occur. The proposed canal from Raritan Bay to Bordentown on the Delaware River would be $33\frac{1}{2}$ miles long. This would reduce the distance by water from New York to Philadelphia to 87 miles and would provide a safe waterway which would greatly assist in the eastward moving of the many millions of tons of freight which cross New Jersey annually (Fig. 41).

Railroads. Since the building of the first railroad in New Jersey—the Camden and Amboy in 1831—the increase in

railroad mileage has been so rapid that today the state holds first place for transportation facilities (Fig. 42). Because New Jersey stands in the pathway of direct communication between the West and New York City, all but one of the western trunk lines pass through the state to terminals in Jersey City,

FIG. 42. Great quantities of coal for New Jersey industries are brought by rail from Pennsylvania

Hoboken, and Weehawken. The Pennsylvania Railroad alone enters New York City through a tunnel under the Hudson River. This tunnel, which extends from Harrison to the Pennsylvania Station in New York City, is over six miles long. It is a great convenience to the traveling public, for it saves time and brings the people of New Jersey and adjoining states in direct touch with the heart of New York City (Fig. 43).

There are seven main railroad trunk lines crossing New Jersey. These are the Pennsylvania Railroad, from Jersey City to Trenton; the Central Railroad of New Jersey, from Jersey City to Phillipsburg; the Erie Railroad, from Jersey City to the

New York State line at Suffern; the Delaware, Lackawanna, and Western Railroad, from Hoboken to Phillipsburg; the New York, Susquehanna, and Western Railroad, from Jersey City to the Delaware near Dunnfield; the Lehigh Valley Railroad, from Jersey City to Phillipsburg; and the New York Central Railroad, from Weehawken to Tappan.

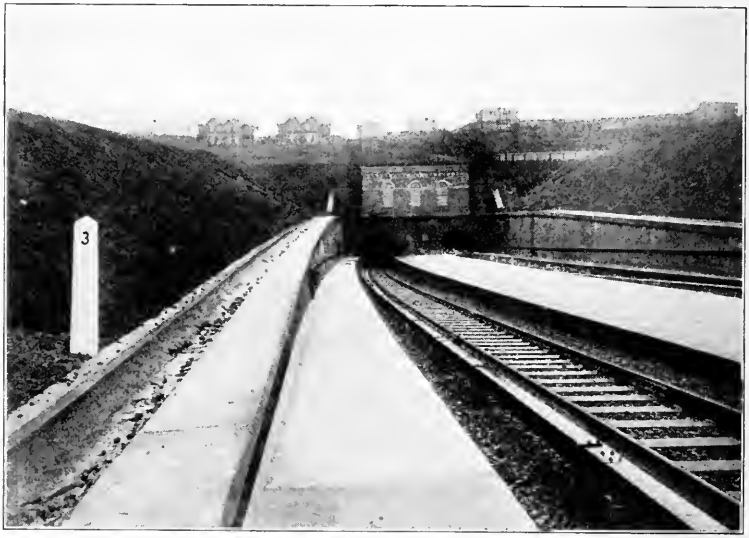


FIG. 43. The entrance to the Pennsylvania Tunnel on the New Jersey side

About forty local, or branch, railroads form such a wonderful network of lines across New Jersey that no place is more than seven miles distant from some railroad. This is of special importance to the farmers of New Jersey, for it enables them to get their farm products to the great city markets easily and with very little delay.

Electric railways. Covering the state of New Jersey, and with centers in every city, is an extensive electric-railway system. This not only provides a convenient means of travel but plays an important part in rural development by bringing large farming areas within easy reach of the centers of population and distribution.

The Hudson and Manhattan tunnels connect the principal railroad terminals at Jersey City and Hoboken with New York City. These provide convenient and rapid means of transportation between New Jersey and upper or lower New York (Fig. 44).

State highways. New Jersey was the first state in the Union to take up the question of extending state aid to counties

FIG. 44. An electric train at the Manhattan Transfer Station. From this station passengers may reach New York City by tunnel under the Hudson River

for the purpose of improving their roads. This financial assistance has hastened the building of good roads, and today New Jersey has more than fifteen thousand miles of hard-surfaced highways, or four fifths of a mile of road for each square mile of area. This is nine times as much as the average length of hard-surfaced highway per square mile of area for the United States as a whole (Fig. 45).

Two of New Jersey's famous state highways are the State Ocean Highway, from Atlantic Highlands to Cape May, and the Delaware River Drive. At present the state is working

on a state-highway system of fifteen routes, totaling six hundred and fifty-five miles. The highways which will make up this system will be smooth, hard-paved, concrete roads and will be eighteen feet wide and from eight to ten inches thick. Special attention is being given to the stone foundation and the roadbed drainage, both of which will help to insure the permanent good surface of the roads throughout the system.

FIG. 45. One of the smooth, hard-surfaced roads of the New Jersey state-highway system

The rapid development of backward areas follows the opening of good roads. Citizens in nearly every section of the state now enjoy comfort and economy in travel and accessibility to markets, shopping centers, churches, and amusements. Automobile-omnibus lines and motor trucks have already become an important means of transportation in the rural districts of the state as well as in the cities and towns. Farmers who were obliged at one time to haul their products over miles of bad roads in horse-drawn wagons can now transport them quickly and easily over the smooth, hard roads in motor trucks. This improved transportation has made the New Jersey farmers much more prosperous.

RECREATION AND HEALTH RESORTS

New Jersey has been rightly named the People's Playground. The long stretch of level, sandy beach, which borders the Coastal Plain, and the wooded mountains, rolling hills, and quiet lakes of the northern portion of the state are enjoyed by multitudes of people each year.

The coast of New Jersey from Sandy Hook to Cape May, a distance of one hundred and twenty-five miles, is one long summer resort. With its pleasant climate, its gently sloping bathing beaches, and its many inlets and bays for sailing and yachting, this famous coast brings health and pleasure to hosts of visitors.

Less well known, but equally enjoyable, are the natural beauties of the northern counties. Here lakes and rippling trout streams are combined with the charm of the woods and mountains. Many favorite resorts are to be found in this section.

In the pines of Burlington, Monmouth, and Ocean counties are health resorts, attractive in winter as well as summer.

POPULATION

In 1920 the population of New Jersey was 3,155,374, or an increase of more than 24 per cent over the census of 1910. It is the third state in density of population. Rhode Island is first and Massachusetts second. Even with this high population density, 75 per cent of New Jersey's people live upon 6 per cent of its area. The greatest number of people live in the counties of the northeast,—Bergen, Hudson, Passaic, Essex, Union, and Middlesex. Camden and Trenton are centers of thickly populated sections. These two densely populated areas of New Jersey center around New York and Philadelphia and show that the occupations of the great mass of people are closely linked with the industrial life of these great cities (Fig. 46).

New Jersey has nineteen cities with a population greater than 25,000. The population of five of these cities—Newark, Jersey City, Paterson, Trenton, and Camden—ranges from over 115,000 to over 400,000.

COUNTIES

There are twenty-one counties in New Jersey, and every county has either a harbor, a coast line, a river, or a canal running into or about its territory. Bordering on the Hudson River and New York Bay are Bergen and Hudson counties; on Newark Bay and Arthur Kill are Essex and Union counties; on Raritan Bay are Middlesex and Monmouth counties; on the Atlantic Ocean are Monmouth, Ocean, Atlantic, and Cape May counties; and on the Delaware River and Delaware Bay are Cumberland, Salem, Gloucester, Camden, Burlington, Mercer, Hunterdon, Warren, and Sussex counties. Joining New York State on the north are Sussex, Passaic, and Bergen counties. Only the counties of Somerset and Morris are not border counties.

CITIES

The commercial, manufacturing, and residential cities and the summer resorts may be studied in four groups centering around the Metropolitan District of New York, the Metropolitan District of Philadelphia, the thickly settled area surrounding Trenton, and the pleasure resorts along the Atlantic Ocean.

NEW YORK METROPOLITAN DISTRICT

More than three fourths of the people of the state live in a comparatively small area near New York City, in the counties of Hudson, Essex, Bergen, Passaic, Union, and Middlesex (Fig. 47). Here there are eight large manufacturing cities,—Newark, Jersey City, Paterson, Elizabeth, Hoboken, Bayonne, Perth Amboy, and Harrison. This section is so thickly settled that the cities merge into one another and seem like one continuous city. In the beautiful residential cities and towns of this area live thousands of business men who travel each day by railroad or trolley car to their work in the cities. The center of this densely populated area is *Newark*, the largest city in New Jersey. Situated on the Passaic River and Newark Bay,

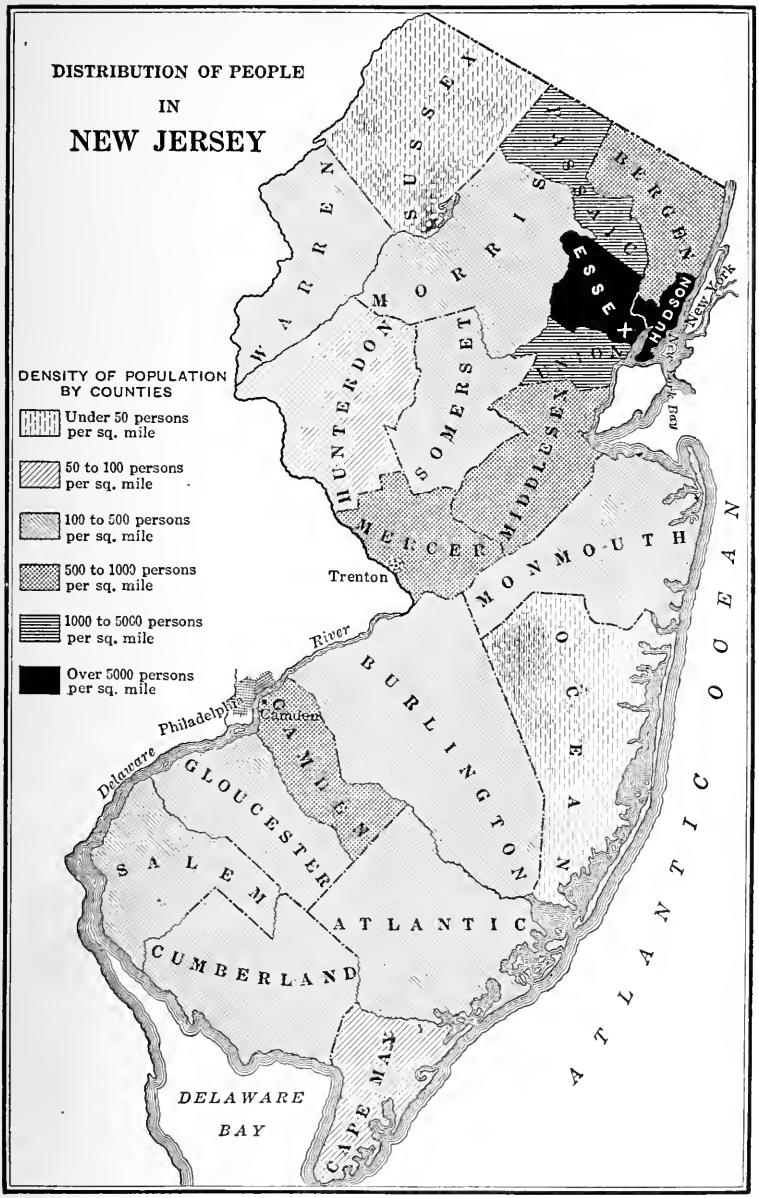
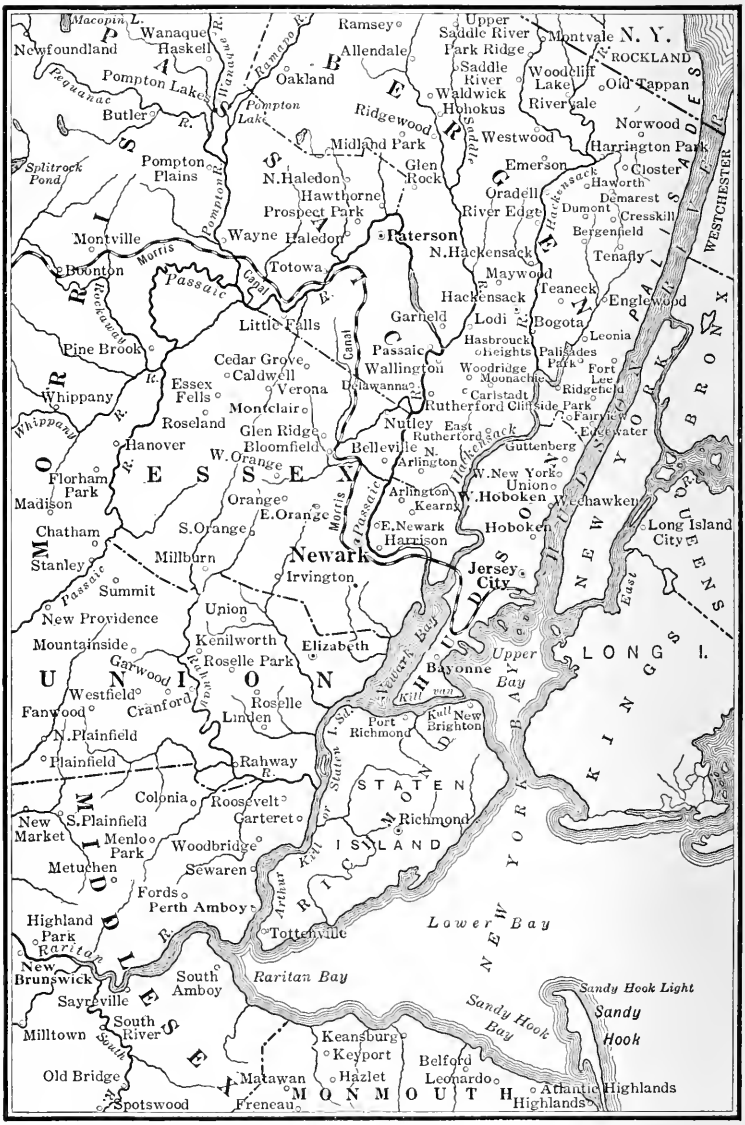


FIG. 46. List the counties of New Jersey in groups by population density. Give reasons for the density of each group


Macopin L.
Wanaque
Newfoundland
Haskell
Pequannac R.
Pompton Lake
Butler
Pompton Lake
Ramapo R.
Ramsey
Allendale
Oakland
Upper Saddle River
Park Ridge
Saddle River
Waldwick
Hohokus
Ridgewood
Midland Park
Westwood
Montvale
N. Y.
ROCKLAND
Woodcliff Lake
Old Tappan
Rivervale
Norwood
Harrington Park
Closter
Haworth
Demarest
Cresskill
Dumont
Bergenfield
Tenafly
Englewood
Teaneck
Emerson
Oradell
River Edge
Hackensack
Maywood
N. Hackensack
Paterson
Wayne
Haledon
N. Haledon
Hawthorne
Prospect Park
Glen Rock
Pompton Plains
Splitrock Pond
Montville
Boonton
Rockaway R.
Morris Canal
Passaic R.
Totowa
Little Falls
Garfield
Lodi
Bogota
Leonia
Hasbrouck Heights
Palisades Park
Fort Lee
Ridgefield
Pine Brook
Cedar Grove
Caldwell
Verona
Essex Fells
Whippany R.
Whippany
Roseland
Montclair
Glen Ridge
Bloomfield
Hanover
W. Orange
Florham Park
Madison
Chatham
Stanley
Millburn
Summit
New Providence
Mountainside
Garwood
Westfield
Fanwood
Cranford
N. Plainfield
Plainfield
Rahway R.
Colonia
Roosevelt
New Market
S. Plainfield
Carteret
Menlo Park
Woodbridge
Metuchen
Sewaren
Fords
Perth Amboy
Highland Park
Raritan R.
New Brunswick
Sayreville
South Amboy
Raritan Bay
South River
Milltown
Old Bridge
Spotswood
Matawan
Freneau
Keansburg
Keyport
Hazlet
Belford
Leonardo
Atlantic Highlands
Highlands
Sandy Hook Light
Sandy Hook
Sandy Hook Bay
Lower Bay
Passaic
Passaic
Passaic

it has a water frontage of eleven miles with good docking facilities. A channel three hundred and fifty feet wide and twenty feet deep which has recently been dredged extends from the city to the waters of Kill van Kull and New York Bay. This great work will, in the near future, make Newark one of the most important seaports and commercial centers of the country.

FIG. 48. The Public Service Terminal at Newark is the only street-railway terminal of its kind in the world. In addition to its terminal facilities this building contains the offices of the Public Service Corporation of New Jersey

Newark has unexcelled railroad facilities. The nine principal railroads of New Jersey have fourteen stations in the city. The Hudson tunnels, under the river, connect it directly with New York City, while many trolley lines radiate to neighboring cities and towns. Newark, ranking first in New Jersey in value of manufactured goods, carries on more varied lines of industry than any other city in the United States. Its great industrial progress has been due to the Morris Canal (which linked up

the coal fields of Pennsylvania with the city, in its early days, providing the necessary fuel for running its machinery), to the numerous railroads, and to water transportation. The chief industries are the smelting and refining of copper, the tanning and finishing of leather, the manufacture of jewelry, iron, steel and brass products, electrical supplies, and shipbuilding. More than one hundred plants manufacture belting, bags, saddles, harness, coats, and other leather goods. Their yearly product is valued at $10,000,000. Thousands of employees in jewelry establishments turn out all sorts of ornaments and articles of gold, platinum, and silver. The jewelry business alone is valued at $8,000,000 annually. Newark silverware is famous all over the world (Fig. 48).

Just across the Passaic River from Newark are the prosperous cities of Harrison, Kearny, East Newark, and Arlington. *Harrison* has varied industries, which include foundries, machine shops, steel mills, electrical shops, and brass works. Harrison is only seven miles west of New York City and is connected with that city by three railroad trunk lines and a deep-water route navigable all the way by large vessels. *Kearny* is noted for shipbuilding, steel casting, glues, oil, and wire. It has a frontage on the Passaic River, and vessels drawing eighteen feet of water find safe accommodation at its wharves. The filling of the Kearny meadows has afforded excellent sites for manufacturing plants. *East Newark* is on the east side of the Passaic River, opposite the city of Newark, and has an extensive frontage on the river. Its chief industries are the manufacture of sewing-thread, shade rollers, and wall plaster.

Surrounding Newark are many thriving suburban towns, the homes of business men. These towns are connected with Newark and the city of New York by railroad and trolley lines. They are progressive municipalities which reflect the social and industrial progress of the Metropolitan District. Attractive homes, public-service departments, and exceptional educational facilities are the main features of Montclair, Bloomfield, Nutley, Orange, East Orange, South Orange, West Orange, Glen

Ridge, Belleville, Irvington, Summit, and Caldwell. The demand for residential sites in this section naturally limits manufacturing to certain localities. *Montclair*, the home of one of the state normal schools, is located in the foothills of the Orange Mountains. It is noted for its beautiful scenery and

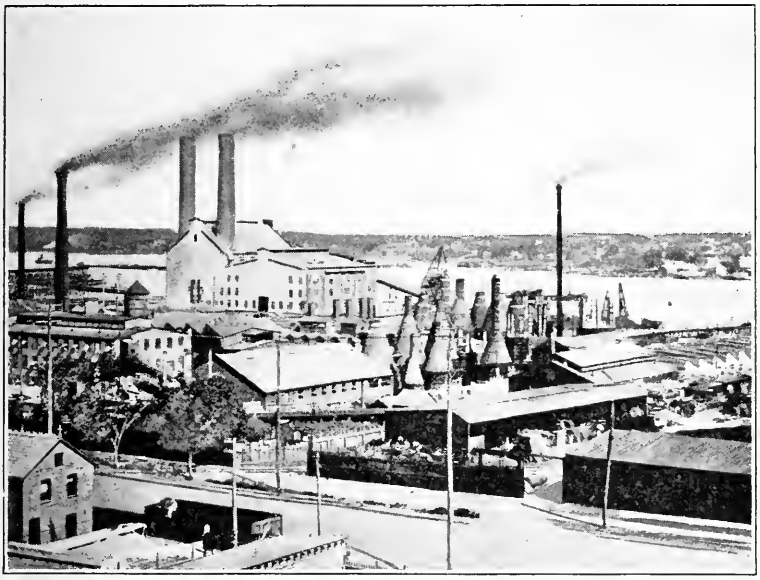


FIG. 49. A large plant for the manufacture of terra cotta at Perth Amboy

homes. East of Montclair is *Nutley*, widely known as a fashionable residential suburb. *Glen Ridge* is another well-known residential community. *Bloomfield*, noted for its fine dwellings, has numerous industries, producing ordnance fuses, electric lamps, cream separators, woolen goods, and chemicals. *Orange*, a growing industrial city, has the largest radium-manufacturing plant in the world. Hats, felt, lawn mowers, and calculating machines are among its manufactures. *East Orange* is best known as a residential city, although a number of industries produce electric motors and generators, machinery, and hats. *West Orange*, a fine residential town and the home of Thomas A. Edison, has factories for making moving-picture

machines, phonographs and records, films, storage batteries, and hats. *South Orange*, *Summit*, and *Caldwell* are attractive residential places. At *South Orange* is situated Seton Hall College for men. *Irvington*, noted as a residential city, has now become a manufacturing center of no little importance.

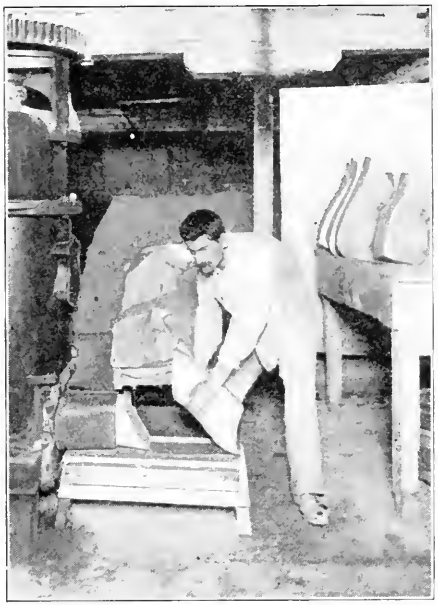


Fig. 50. This man has in his hands a block of clay which is ready to be pressed and molded

Many thriving manufacturing centers are connected with Newark by trolley. *Elizabeth*, one of the oldest cities in New Jersey, has many attractions as a residential and an industrial city. Because of its deep-water connections with New York Bay and its unsurpassed railroad facilities it has been called the Rail and Harbor City. Beautiful shaded streets and thousands of fine homes make it a residential city equaled by few in the state. The largest single industry in the world, a company which manufactures sewing machines, is located in the eastern part of the city, called *Elizabethport*. Other industries are the manufacture of iron and steel products and electrical appliances, printing, tanning, and shipbuilding.

Rahway, southwest of Elizabeth, is a growing city. Its chief industries are printing and bookbinding and the making of chemicals, music boxes, clothing, and cereals. West of Elizabeth are the thriving towns of *Roselle*, *Roselle Park*, *Cranford*, *Westfield*, and *Garwood*, all of which are residential places and growing industrial centers.

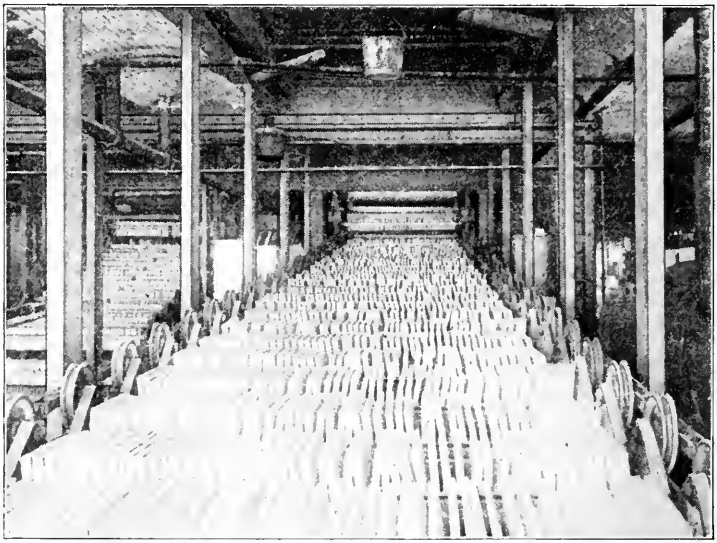
The rapid industrial growth of *Perth Amboy* is due to its location on the Raritan River, Raritan Bay, and Arthur Kill, as well as to its railroad facilities. Freight may be shipped by land or water to any part of the world from here. Valuable clay deposits have led to the establishment of large manufacturing plants, whose products of terra cotta, earthenware, brick, and fireproof tile are very valuable (Figs. 49, 50). Other industries are the smelting and refining of copper and lead and the manufacture of chemicals, cigars, and insulated wire and cables. Near Perth Amboy are populous towns with similar industries. *South Amboy* is noted for the shipping of clay; *Woodbridge* for its output of fire brick; *Sayreville* and *South River* for the manufacture of building brick. Similar industries are found in *Metuchen, Carteret*, and *Chrome*.

Between New York Bay and Newark Bay lies a long, narrow peninsula separated by the Kill van Kull from Staten Island. On the peninsula are many cities of industrial and commercial importance. This is the most densely populated section of New Jersey. Here are the great cities where the nation's commercial routes meet those of the whole world. The water front of this peninsula forms a part of the port of New York and is lined with wharves where ships from all over the world unload and receive their cargoes of goods.

On this peninsula, opposite the lower end of Manhattan Island, is *Jersey City*, the second city of New Jersey in size, population, and value of manufactured goods. Its great commercial growth has been due to its location on New York Bay and the Hudson River, separated from the city of New York only by the Hudson River, which is traversed day and night by powerful steam ferryboats. It is closely connected with New York by the Hudson and Manhattan Railroad tunnels, which bring the people into close contact with the metropolitan social and business life. Eleven railroads have terminals at the water front and bring American products directly to the ships which take them to all seaports of the world. The chief industries of Jersey City are sugar refining (Fig. 51) and the manufacture of cigars, tobacco, soaps, perfume, iron, steel and

brass products, chemicals, electrical supplies, lead pencils, and printer's type. The value of these manufactures is very high.

Adjoining Jersey City on the north is *Hoboken*, the most densely populated city in the state. This city is connected with New York by the Hudson River tunnels and by ferries. It has excellent trolley service to all surrounding municipalities. It is the chief steamship terminal on the Jersey side of



© American Sugar Refining Co.

FIG. 51. Sugar on moving drying pans in a Jersey City sugar refinery

New York Harbor, and some of the largest ships engaged in transatlantic commerce dock at the Hoboken piers. Many people are employed in shipbuilding and repairing and in making nautical and surveying instruments, silk goods, marine engines and boilers, lead pencils, and penholders.

On the Hudson River, north of Hoboken, is *West Hoboken*, a beautiful city with rapidly growing manufactures of embroidery, silk goods, and clothing.

North of West Hoboken are a number of populous and thriving communities which lead the state in producing embroidery work; these are *Weehawken*, *Union*, *West New York*,

North Bergen, Guttenberg, and *Secaucus.* These communities are all similarly situated and are engaged in making embroidery and silk goods.

Bayonne, the greatest oil-refining center in the world, joins Jersey City on the south. It has frontage on New York Bay, Kill van Kull, and Newark Bay for ocean-going ships and has excellent rail transportation. Oil is brought by pipe lines direct from the oil fields of the West to refineries on the water front, from which the refined products are sent to all parts of the world. Other important industries are the manufacture of boilers and castings, motor boats and generators, nickel and copper utensils, and insulated wire and cable.

In the northern part of the peninsula, along the ridges of the Palisades, are many attractive residential towns. Among them are *Englewood, Fort Lee, Edgewater, Ridgefield Park, Fairview, Tenafly,* and *Cliffside.* Excellent transit facilities make these places practically suburbs of New York City.

Paterson, the greatest silk-manufacturing city in the United States, is located at the falls of the Passaic River. Its industrial growth is due entirely to the remarkable natural advantages of its location. The power of the falls of the Passaic has been converted into electricity for use in factories and mills. In the early days of its growth Paterson received coal for its industries by way of the Morris Canal; today coal is brought to the city by the railroads. Paterson is near New York Harbor and only sixteen miles from New York City. More than four hundred silk mills and dye houses employ an army of thirty thousand workers. Besides leading the country in the manufacture of silk, Paterson has large machine shops, foundries, steel mills, locomotive works, and many other manufacturing plants.

Between Paterson and Newark, on the Passaic River, is the attractive city of *Passaic.* It is thirteen miles from New York and is a residential as well as an industrial city. There is rapid trolley service to all cities and towns in the middle counties of the state and excellent railroad facilities for passengers and freight. Passaic leads in the woolen-textile industry in the

state, besides manufacturing rubber goods, handkerchiefs, silk goods, clothing, and automobile-tire fabrics.

Situated near Passaic is the prosperous residential town of *Hackensack,* the county seat of Bergen County (Fig. 52). *Clifton* has considerable water-power and is a growing manufacturing town. *Lodi* has extensive dye industries. *Garfield*

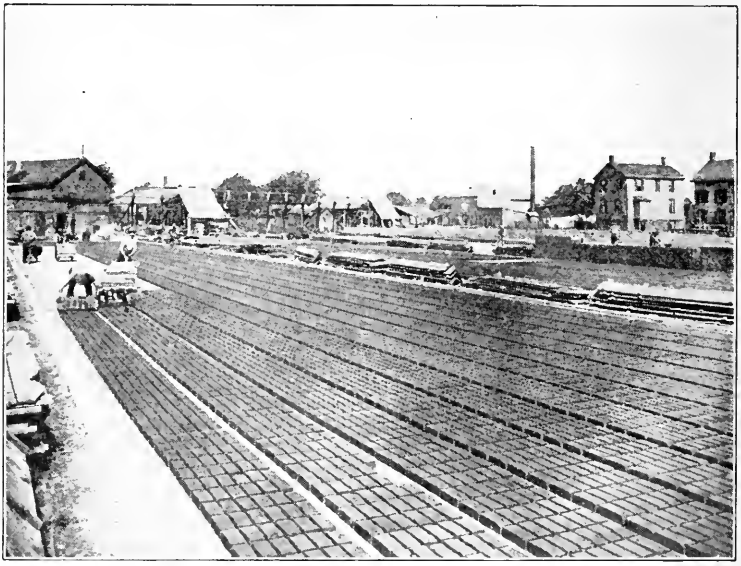


FIG. 52. The drying yard of a brick-manufacturing plant at Hackensack

manufactures woolen and cotton goods. *Rutherford, Westwood, Hasbrouck Heights,* and *Ridgewood* are especially attractive residential towns within a short commuting distance of New York City.

PHILADELPHIA METROPOLITAN DISTRICT

Across the Delaware River from Philadelphia, and sharing in the commercial and industrial prosperity of that great city, is another densely populated section of New Jersey, known as the Philadelphia Metropolitan District (Fig. 53). In this district are many important industrial centers.

Camden, the largest city in southern New Jersey, is located directly opposite Philadelphia on the east bank of the Delaware River. It was founded in 1680 and was first known as Cooper's Ferry. Camden has long been the meeting point of all the railroads, trolleys, and highways that traverse the southern portion of the state. A proposed bridge across the Delaware

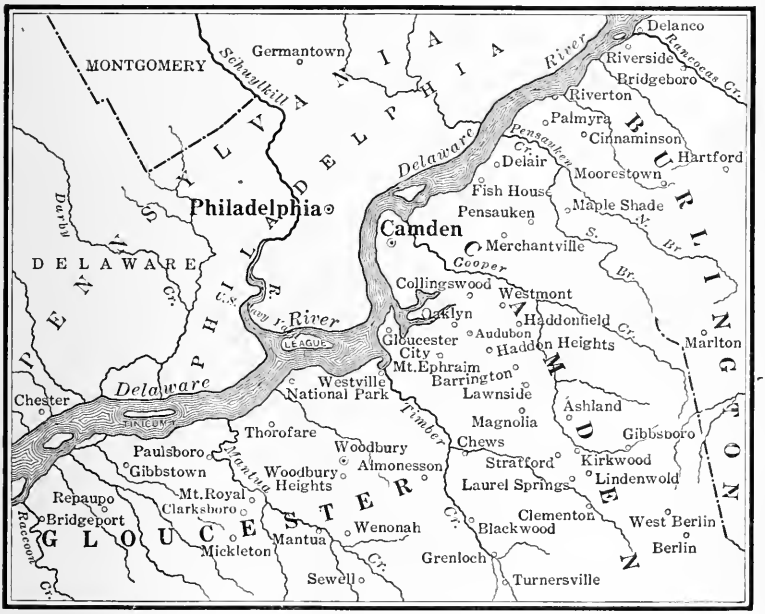


FIG. 53. The Philadelphia Metropolitan District

will bring the city more rapid means of communication with Philadelphia and the South than can now be maintained by the several ferries. Cooper Creek divides the city into East and West Camden. This river is navigable along its entire course through the city, enabling vessels to carry freight to and from the many manufacturing plants which line its sides. By reason of its location along the Delaware River and Cooper Creek, Camden has become one of the largest and most important shipbuilding centers in the world. Four great lines of railroads enter the city, which, with the deep-water

transportation, enable shippers to transport goods easily to all parts of the world and to receive in return the needed imports.

Great quantities of linseed oil and cork cuttings collected in various parts of the world are used at Camden in the manufacture of linoleum and oilcloth. Wood flour (sawdust), powdered cork, and oxidized linseed oil are mixed together and pressed on burlap to make the linoleum. With its "fabricated" ships, built in its own shipyards, Camden can send victrolas, writing pens, linoleum, machinery, textiles, soups, paints, chemicals, and candy to any domestic or foreign port.

A large soup factory in Camden has promoted the growth of tomatoes and other vegetables on the neighboring farms. Long lines of trucks bring these vegetables to the canning factory.

Not far from Camden are the residential towns of *Collingswood*, *Haddonfield*, *Merchantville*, *Moorestown*, *Riverton*, and *Palmyra*. *Mt. Holly* is rich in agricultural products. *Pemberton* is near the large cranberry bogs. *Browns Mills*, near Camp Dix, is a famous winter resort. Northeast of Camden are *Riverside*, which manufactures watch cases and sheet metal, and *Beverly*, which manufactures underwear and rope. *Burlington* has a fine frontage on the Delaware River; its chief products are shoes and iron pipe. *Florence* manufactures thread, iron pipe, and fire hydrants, and *Roebling* produces wire rope.

Bordentown, at the entrance of the Delaware and Raritan Canal, is noted for its clay products, iron forgings, and canned vegetables.

Gloucester City, south of Camden, has large shipyards and cotton and carpet mills. Here corrugated-fiber shipping boxes and the famous Welsbach gas mantles for gas lamps are manufactured. *Woodbury* is a prosperous residential town and the center of a fine agricultural section. *Glassboro's* main industry is glass manufacturing. *Swedesboro* is one of the greatest vegetable shipping points in the East. *Clayton* is surrounded by rich farms, and *Paulsboro*, in an agricultural section, is noted for chemicals. *Salem*, on the Delaware River, a historic town settled by the Quakers, manufactures glass bottles and jars

and cans fruits and vegetables. *Penns Grove* is located near a great dye and powder plant. An excellent grade of quartz sand is found near *Bridgeton* and *Millville,* which have large glass-plants.

On immense tracts of land near *Woodstown* and *Bridgeton* an overhead system of irrigation has been constructed. This had led to intensive cultivation of berries, lettuce, onions, and other vegetables.

Vineland bottles grape juice. A well-known training school for teachers of defective children is located here. *Hammonton* manufactures boots and shoes; *Egg Harbor City,* cut glass and clothing.

Cape May Court House has access to the ocean by means of a canal and does a large business in cultivating and marketing the famous Cape May salt oyster. Children's clothing is manufactured at *Woodbine.*

SEASIDE AND HEALTH RESORTS

Many popular pleasure and health resorts are located along the Atlantic coast of New Jersey. The gently sloping sandy beach offers an excellent bathing ground for visitors, while motor boats carry pleasure seekers into the many bays and inlets that indent the coast.

Cape May, at the extreme southern end of the state, is an old popular resort, and its near neighbor *Wildwood* has a fine beach. *Ocean City* is the home of a state summer school for teachers.

Atlantic City is one of the most famous seaside resorts in the world. Thousands of people from all parts of the United States visit this place annually. It is a favorite meeting place for conventions. Over a thousand hotels take care of the immense floating population of more than a quarter of a million. Located on a sand bar and surrounded on every side by water, the continued ocean breezes are safeguards against great extremes of heat or cold and make the city popular in winter as well as in summer (Fig. 54).

Pleasantville is a growing city near Atlantic City. One of the world's largest wireless stations is located near *Tuckerton*. *Barnegat* and *Toms River* are frequented by those who enjoy boating and fishing, while *Point Pleasant*, *Manasquan*, *Seagirt*, and *Belmar* form an almost unbroken series of resorts. *Seagirt* is the drill ground for the New Jersey National Guard.

FIG. 54. The beach at Atlantic City

Ocean Grove, founded many years ago as a camp-meeting ground, and *Asbury Park* are patronized during the summer months by thousands of visitors who enjoy the smooth beaches, the beautiful drives, and the stimulating ocean breezes. *Allenhurst* and *Bradley Beach* have fine summer homes. *Long Branch* is the oldest resort in the state. *Red Bank* ranks high among the coast resorts on account of its great scenic beauty. *Atlantic Highlands* has the highest elevation on the Atlantic coast between Maine and Florida.

TRENTON AREA

Trenton, the capital city of New Jersey, is located on the Delaware River, at the head of navigation. It is thirty-three miles from Philadelphia and fifty-nine miles from New York. An extensive water front has been acquired by the city, which is now erecting docks.

Trenton is the first of the fall-line cities, and a great amount of power for manufacturing is derived from the falls of the Delaware. This city is famed in the history of the Revolutionary War. Here the greatest blow for freedom was struck by General Washington at the battle of Trenton. An imposing monument commemorates this great victory.

The transportation facilities of Trenton are of the best. There are two great railroad trunk lines with numerous branch lines, the navigable water routes of the Delaware River and the Delaware and Raritan Canal, and numerous trolley lines, extending to Philadelphia, northern New Jersey, and New York. One of its most beautiful features is a magnificent park extending from the main thoroughfare to the rapids of the Delaware, including the Capitol building and the recently restored "Barracks," which were erected long before the Revolutionary War (Fig. 55).

Trenton is a manufacturing city of first rank, with a high standing in several lines of industry. It has the largest wire-drawing establishment in the world. The entire town of Roebling, south of Trenton, with its factories, homes, churches, and public halls, is owned by this company. Here were made the cables for the Brooklyn Bridge, which crosses the East River. Here, too, were made millions of feet of wire so necessary for the success of the World War.

In the manufacture of pottery Trenton ranks second in this country, but first in the manufacture of sanitary ware. In addition to the sanitary ware forty-seven potteries turn out all kinds of products, from the commonest crockery to the finest decorated china.

Trenton also ranks second in the manufacture of rubber goods. The milky sap of the rubber tree, when properly mixed with sulphur and heated, forms the rubber used for automobile tires, inner tubes, raincoats, rubber tubing, belting, and overshoes. Thousands of pounds of crude rubber are imported from the tropical forests of Africa and Brazil and used in the

FIG. 55. The New Jersey state Capitol at Trenton

Trenton industries. Twenty-four rubber mills produce rubber goods to the value of $30,000,000 each year. Ironworks, machine shops, foundries, electrical-supply factories, woolen mills, and machinery are a few of the two hundred industrial establishments of this city.

Northeast of Trenton is *Princeton*, famed in history for the battle of Princeton. It is the home of Princeton University and the Princeton Theological Seminary (Fig. 56). A thriving, progressive town is *Lambertville*, located on the Delaware River, from which it has unlimited water-power. Its principal

products are trap rock, rubber goods, and canned goods. *Hopewell* and *Pennington*, in the center of a very fertile agricultural section, produce quantities of fruits and vegetables.

Lawrenceville is the home of the Lawrence Preparatory School. *Flemington* and *High Bridge*, in Hunterdon County, are important trade centers with growing industries. *Phillipsburg*, on the east side of the Delaware River, opposite the

FIG. 56. Nassau Hall, the oldest building of Princeton University

mouth of the Lehigh River, has unusual transportation facilities. Five railroads meet here, and it is the western terminal of the Morris Canal. It is near the mines of Warren and Morris counties and the famous Portland-cement mills. Air compressors and rock drills, silks, horseshoes and calks, iron pipe and castings are its chief products. *Belvidere* is a progressive modern town near a great source of water-power. *Hackettstown* is the home of the Centenary Collegiate Institute, and *Blairstown*, a select but progressive community, is the home of Blair's Academy. *Washington*, in Warren County, produces pianos, talking machines, and silks; *Oxford* is noted for iron

and steel; *Newton* manufactures shoes and silk goods; *Franklin* and *Ogdensburg* are noted for the production of zinc ore and limestone. *Jamesburg* has the State Home for Boys, and *Hightstown* is the home of Peddie Institute. *Keyport,* on the Raritan Bay, has excellent transportation by water, rail, and trolley and is noted for oysters, aëroplane motors, and tile. *Freehold,* the county seat of Monmouth County, is surrounded by a fine farming country. Near this town the famous battle of Monmouth Court House was fought.

New Brunswick is located on the main line of the Pennsylvania Railroad and the Raritan River Railroad. The Raritan River furnishes means for water transportation to New York and all cities on the Atlantic coast. The Delaware and Raritan Canal furnishes water transportation to Trenton, Camden, Philadelphia, and other places on the Delaware River. The proposed sea-level canal will greatly increase the importance of this city. Rutgers College, which includes the State Agricultural College, is located here. New Brunswick's chief industries are the making of hard-rubber goods, surgical supplies, piston rings, and aviation engines.

In the foothills of the beautiful Watchung Mountains are a number of growing cities with attractive homes, well-paved and shaded avenues, and public parks. Trunk-line railroads, electric lines, and excellent state roads provide facilities for traveling to all places in central or northern New Jersey.

Plainfield is a beautiful residential city with a number of prosperous industries. *North Plainfield* is a residential suburb. Here is situated Mt. St. Mary's College for women. During the years of the Revolutionary War General Washington had his headquarters at *Morristown,* another beautiful residential city. The College of St. Elizabeth for women is situated at *Convent Station. Madison* is a town of select homes. *Boonton* and *Dover,* situated in picturesque parts of Morris County, are residential towns with growing industries of boiler-making, foundries, silk hosiery, and silk goods. *Somerville* is a prosperous and attractive town with excellent rail and trolley service to New York. *Boundbrook,* the converging point of

four trunk-line railroads, and the Delaware and Raritan Canal, is an active industrial center. *Finderne* is almost exclusively a place of fine residences, while *Raritan* is an industrial center with the manufacture of woolen goods and textile machinery as its chief industries.

PROBLEMS AND PROJECTS

1. How has transportation affected the distribution of population?

2. Explain the density of population in Hudson, Essex, Union, and Camden counties.

3. If you were going into truck-farming where should you buy your farm? Why?

4. If you were going into dairying where should you buy your farm? Why? Consider soil, climate, transportation facilities, markets.

5. Explain the location of oil refineries at Bayonne.

6. Explain the location of silk mills and dye shops at Paterson.

7. Why has Atlantic City grown to be a winter as well as a summer resort?

8. Why is New Jersey a good state in which to live?

9. Are pound fisheries a good thing for the state?

10. If you wished a friend in Kansas to move to your state what would be some of your arguments?

11. When a man is considering moving to a city or town what are some of the things he will wish to find there? List the advantages that your town has as a residential town.

12. What determined the location of the shipbuilding plant at Port Newark (on Newark Bay)? at Camden?

13. Elimination of the mosquito and its effect upon New Jersey.

14. What is meant by meadow reclamation, and what will be some of its advantages to Newark, Jersey City, Hoboken, Bayonne, and other towns in that section?

15. The Passaic River—its importance—its value in the development of Paterson.

16. Why are national immigration laws important to the state of New Jersey?

17. Why is the prosperity of New Jersey so dependent upon the means of transportation?

18. How has New Jersey's growth in population been affected by Philadelphia and New York City?

19. Compare the population of New Jersey with that of New York City; Texas; the Plateau Section.

20. In what ways have the Hudson and Delaware rivers helped in the growth of New Jersey? (Location of railroad terminals, shipping terminals, etc.)

21. Why do so many people in the United States come to New Jersey for recreation?

22. Account for the growth of the two most important towns or cities in your own county.

INCORPORATED PLACES IN NEW JERSEY HAVING A POPULATION OF 2000 OR OVER IN 1920

Alpha	2,140	Dover	9,803
Asbury Park	12,400	Dumont	2,537
Atlantic City	50,707	Dunellen	3,394
Audubon	4,740	East Newark	3,057
Bayonne	76,754	East Orange	50,710
Belleville	15,660	East Paterson	2,441
Bergenfield	3,667	East Rutherford	5,463
Beverly	2,562	Edgewater	3,530
Bloomfield	22,019	Egg Harbor City	2,622
Bloomingdale	2,193	Elizabeth	95,783
Bogota	3,906	Englewood	11,627
Boonton	5,372	Fairview	4,882
Bordentown	4,371	Flemington	2,590
Boundbrook	5,906	Fort Lee	5,761
Bradley Beach	2,307	Franklin	4,075
Bridgeton	14,323	Freehold	4,768
Burlington	9,049	Garfield	19,381
Butler	2,886	Glen Ridge	4,620
Caldwell	3,993	Glen Rock	2,181
Camden	116,309	Gloucester	12,162
Cape May City	2,999	Guttenberg	6,726
Carlstadt	4,472	Hackensack	17,667
Chatham	2,421	Hackettstown	2,936
Cliffside Park	5,709	Haddonfield	5,646
Clifton	26,470		
Collingswood	8,714		

Haddon Heights	2,950
Haledon	3,435
Hammonton	6,417
Harrison	15,721
Hasbrouck Heights	2,895
Hawthorne	5,135
Highland Park	4,866
Hightstown	2,674
Hoboken	68,166
Irvington	25,480
Jamesburg	2,052
Jersey City	298,103
Kearny	26,724
Lambertville	4,660
Leonia	2,979
Little Ferry	2,715
Lodi	8,175
Long Branch	13,521
Madison	5,523
Merchantville	2,749
Metuchen	3,334
Midland Park	2,243
Milltown	2,573
Millville	14,691
Montclair	28,810
Morristown	12,548
Newark	414,524
New Brunswick	32,779
Newton	4,125
North Plainfield	6,916
Nutley	9,421
Ocean City	2,512
Orange	33,268
Palisades Park	2,633
Passaic	63,841
Paterson	135,875
Paulsboro	4,352
Penns Grove	6,060
Perth Amboy	41,707
Phillipsburg	16,923
Pitman	3,385
Plainfield	27,700
Pleasantville	5,887
Pompton Lakes	2,008
Princeton	5,917
Prospect Park	4,292
Rahway	11,042
Ramsey	2,090
Raritan	4,457
Red Bank	9,251
Ridgefield Park	8,575
Ridgewood	7,580
Riverton	2,341
Rockaway	2,655
Roosevelt	11,047
Roselle	5,737
Roselle Park	5,438
Rutherford	9,497
Salem	7,435
Secaucus	5,423
Somerville	6,718
South Amboy	7,897
South Orange	7,274
South River	6,596
Summit	10,174
Tenafly	5,650
Trenton	119,289
Union	20,651
Ventnor	2,193
Verona	3,039
Vineland	6,799
Wallington	5,715
Wanaque	2,916
Washington	3,341

Westfield	9,063	Westwood	2,597
West Hoboken	40,074	Wharton	2,877
West New York	29,926	Wildwood	2,790
West Orange	15,573	Woodbury	5,801
Westville	2,380	Wrightstown	5,288

STATISTICS OF NEW JERSEY COUNTIES

County	Organized	Area Square Miles	County Seat	Population 1910	Population 1920
Atlantic	1837	569	Mays Landing	71,894	83,883
Bergen	1682	237	Hackensack	138,002	201,688
Burlington	1694	815	Mount Holly	66,565	81,770
Camden	1844	222	Camden	142,029	190,508
Cape May	1692	265	Cape May C. H.	19,745	19,460
Cumberland	1748	500	Bridgeton	55,153	61,348
Essex	1682	127	Newark	512,886	651,807
Gloucester	1677	332	Woodbury	37,368	48,224
Hudson	1840	43	Jersey City	537,231	629,124
Hunterdon	1714	437	Flemington	33,569	32,885
Mercer	1838	226	Trenton	125,657	159,881
Middlesex	1682	312	New Brunswick	114,426	162,334
Monmouth	1682	479	Freehold	94,734	104,906
Morris	1739	475	Morristown	74,704	82,294
Ocean	1850	637	Toms River	21,318	22,155
Passaic	1837	196	Paterson	215,902	259,148
Salem	1675	343	Salem	26,999	36,572
Somerset	1688	305	Somerville	38,820	48,015
Sussex	1753	529	Newton	26,781	24,905
Union	1857	103	Elizabeth	140,197	199,832
Warren	1824	362	Belvidere	43,187	45,057

HIGHER INSTITUTIONS OF LEARNING EMPOWERED BY THE STATE BOARD OF EDUCATION TO GRANT DEGREES

Princeton University
Rutgers College
University of New Brunswick
Stevens Institute of Technology
Upsala College (Lutheran)
German Theological School of Newark (Reformed)
Alma College (Pentecostal)
Seton Hall College (Catholic)
Mt. St. Mary's College (Catholic)
St. Benedict's College (Catholic)
St. Joseph's College (Catholic)
St. Peter's College (Catholic)
College of St. Elizabeth (Catholic)

HISTORY

THE EARLY INHABITANTS OF NEW JERSEY

The Lenni-Lenape. When the first white men came to New Jersey they found it a land of dense forests, fertile river valleys, and dreary marshes inhabited only by wild animals and scattered bands of savages. These savages were a part of the Lenni-Lenape tribe of Indians belonging to the great Algonquins, the most numerous nation of Indians in the East, who occupied nearly all the country north of Tennessee and North Carolina from Hudson Bay to the Rocky Mountains.

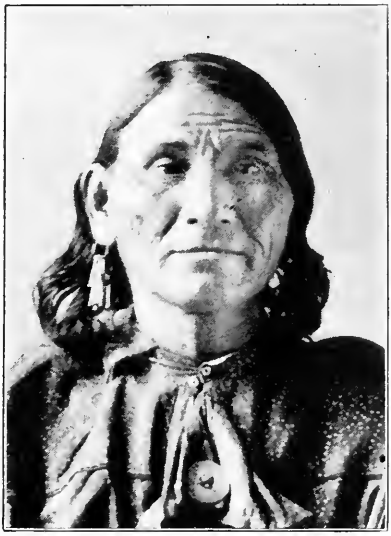


FIG. 57. Jack Hanny of the Delaware tribe. A descendant of the Lenni-Lenape of New Jersey

The Lenni-Lenape, or Delawares, as they were also called, were a tall, well-formed copper-colored race of men with high cheek bones and straight black hair. The men cut their hair close to the head, except a single lock or tuft in the middle, called a scalp lock.

They were scantily dressed in skins of wild animals, and their bodies were often painted or stained in fanciful designs. An Indian rarely expressed his feelings; he painted them upon his face. You could tell by the color of his painted face whether he came in joy or sorrow, in peace or war.

The Indians lived in temporary villages of wigwams, or huts, which were built of stout saplings or young trees bent to form a shelter and then covered with bark, bulrushes, grasses, or a rough mud plaster.

The women built the wigwams, prepared the food, and made deerskin clothing for the family and utensils and ornaments of clay and shells. The men spent their time hunting, fishing, and fighting. They made hatchets and arrowheads of flint and spears and bows. They also made crude tree-trunk canoes by burning out the centers of the trunks with fire and then chipping away the burned part with their stone axes. Their food consisted of maize, beans, wild turkey, fish, and the flesh of wild animals, and they had a great variety of gay and grave dances, games, and mystic ceremonies.

The early white settlers who made friends of the Indians were not molested by them; only those who came bent on war were relentlessly treated as enemies. Generally the Indians seem to have been friendly to the newcomers, and it was usually the white man's treachery that caused the red man to retaliate with great cruelty. The Indians taught the friendly white settlers how to trap and fish and how to raise corn without first clearing the land of trees. This knowledge saved a number of the early settlers from starvation.

The United States has reserved certain tracts of land, especially in the West, for the use of the Indians. In these reservations you will find all the tribes now left in America. The last of the New Jersey Indians left the state in 1802 for Oneida Lake, later moving to Green Bay, Michigan, and finally to what was then known as Indian Territory.

EXPLORATION AND SETTLEMENT

Hudson's explorations. In the autumn of 1620 Henry Hudson, in command of the *Half Moon*, was sent by the Dutch East India Company to find a northwest passage to India. He failed to find this passage, but he explored New York Bay, the Hudson River, and the coast of New Jersey and claimed the entire

territory for Holland. It is reported that the landing place of Henry Hudson on the New Jersey shore was Atlantic Highlands, the highest point of land on the coast of the state. Here, today, twin lighthouses send their rays of light twenty-three miles out to sea to welcome incoming ships and guide them into New York Bay. The memory of Hudson's visit is retained in the name of Hudson County.

FIG. 58. The *Half Moon* on the Hudson

May's expedition. Because of the desire for greater possessions in the New World, the Dutch West India Company of Holland also sent an exploring expedition to the Atlantic coast. This was under the command of Captain Cornelius May (or, as it is sometimes written, Mey) who sailed in 1623. May discovered the mouth of the Delaware and claimed the southern part of our state for Holland. It was for this great explorer that Cape May County was named. Thus it was that the Dutch flag carried by Hudson and May was planted on the banks of the Hudson and Delaware rivers and the future New Jersey proclaimed Dutch territory.

Commercial rivalry. At this time each European nation was striving to secure for its own profit the greater part of the world's trade. England, Spain, France, Holland, and Sweden were all in this contest. The last two were then much more powerful countries than we know them today and were waging a bitter commercial duel wherein each was struggling to be the greatest trading country on the seas. It is to this struggle that New Jersey owes her early settlements, for both Holland and Sweden believed that from this new land in America great wealth was to be drawn.

Dutch settlements. Dutch settlements sprang up on the west bank of the Hudson. In 1630 the greater part of what is now Hudson County was bought from the Indians by Michael Pauw of Amsterdam, Holland, who named the district Pavonia. Three years later an officer of the Dutch West India Company founded a settlement at Paulus Hook. In 1660 the authorities of Pavonia granted several settlers permission to cultivate land and to make a village in the district, and here was founded the town of Bergen. Both Paulus Hook and Bergen are now a part of Jersey City. The following year (1661) a local court was established, and Bergen was given a separate municipal government, becoming the first chartered settlement within the limits of New Jersey. Another settlement was made at Fort Nassau, near the city of Camden. These settlements were largely of an agricultural nature, and it is to the early Dutch farmers that New Jersey is indebted for the beginnings of her great agricultural prosperity.

Swedish settlements. Disregarding the Dutch claims, Sweden sent an expedition to the New World which settled in New Jersey between what are now the cities of Burlington and Salem. Then for several years, between 1638 and 1647, Sweden granted charters for numerous trading stations on the Delaware River. The home government, however, soon neglected these colonies over the sea, and Holland, knowing this, promptly sent a military expedition which captured them in 1655. After this Sweden made no further attempt to establish a colony in New Jersey.

English claims. Long before either the Dutch or the Swedes had dreamed of establishing trading posts in New Jersey, John and Sebastian Cabot had discovered the mainland of North America. This was in 1497, and because these men were in the employ of the king of England they had claimed the whole continent for the English kings according to the custom of those days. Because of this England now determined to drive out all other nations from the territory between her settlements in New England and her southern colonies. In 1664, therefore, a fleet suddenly appeared before New Amsterdam (now New

York) and forced the surrender of New Netherlands, which included the present states of New York and New Jersey. This ended the attempts of the Dutch to settle colonies in America. Having driven out the Swedes, they in turn were driven out by the English.

New Jersey named. Charles II, king of England, gave the land which had been taken from Holland to his brother, James, Duke of York, who in turn sold what is now New Jersey to two of his friends, Lord Berkeley and Sir George Carteret. In honor of the latter, who as governor of the Isle of Jersey had very bravely defended it against Oliver Cromwell's forces during the civil war in England, the new colony was named New Jersey. The next year Philip Carteret, a relative of Sir George Carteret, was sent from England to be governor of the province. He reached his new home during the summer of 1665 with a band of immigrants and founded the settlement which he named Elizabethtown in honor of Lady Elizabeth, Sir George Carteret's wife.

East and West Jersey. The new proprietors were disappointed in their colonizing plans, and in 1674 Berkeley sold his interest to two English Quakers, from whom, two years later, William Penn secured the title to the section of land near Pennsylvania bordering on the Delaware River. At this time the territory of New Jersey was divided into East and West Jersey, the latter being Penn's colony. The line dividing East and West Jersey ran north from Little Egg Harbor on the seacoast to a point on the Delaware River near the northern corner of the state—latitude 41° 40′. When Carteret died (1682) Penn purchased East Jersey also.

Government of the colony. The privileges granted to the colony by the proprietors were embodied in a document known as the Concessions, and it was by this instrument that the people were governed. It provided for a legislative assembly consisting of the governor and twenty-four members. The governor was appointed by the proprietors, who also nominated twelve of the assembly members. The remaining twelve were chosen by the colonists. Annual elections were held,

where those who possessed two hundred acres of land or had other property valued at a minimum of £50 had the right to vote. The government was very liberal in form and guaranteed to the colonists freedom of worship, the right to make their own laws (which should be approved by the proprietors), and to levy their own taxes. This method of governing New Jersey continued down to the time of the Revolution, so from the beginning this state represented a pure democracy. Of the first nine governors six were also governors of New York. Settlements increased rapidly, and between 1676 and 1690 the new towns of Salem, Burlington, Newton, Trenton, and Cape May were fully established. In Salem County there are at the present time towns and townships that bear the name of Penn.

FIG. 59. The oldest house in Burlington

A royal colony. The last years of the seventeenth century were marked by a period of great confusion in New Jersey. New York, the Quakers, and the heirs of Carteret all claimed the province. Finally, because of their inability to settle the question and bring peace to the colony, the proprietors surrendered their rights to the crown in 1702, and New Jersey became a royal colony until the outbreak of the Revolution.

Nationalities of settlers. New Jersey settlers came from many lands and were of many religious beliefs, for there were no religious persecutions in this colony. The earliest to come were the Dutch, who settled mostly on the farming lands in the northern part of the state. They shared their lands with the New England Puritans, who first arrived about 1664

and purchased from the Indians a section of land bordering Newark Bay. They were soon followed by more colonists from Connecticut and Long Island. Later Philip Carteret sent agents into New England whose favorable reports led to the settlement by the Puritans of Piscataway, Woodbridge, and Newark.

From Scotland came the Covenanters, who settled along the coast. When France sent into exile those of her people who were Protestants in religion, they also came in large numbers to New Jersey, and in both East and West Jersey the French Huguenots became valuable citizens. These, with emigrants from Sweden and Denmark and the Friends, or Quakers, from England and from the neighboring colonies were the founders of a state whose men and women have always stood for loyalty, bravery, and honesty. New Jersey, with the help of her original thirteen counties, was among the first of the colonies to fight for freedom.

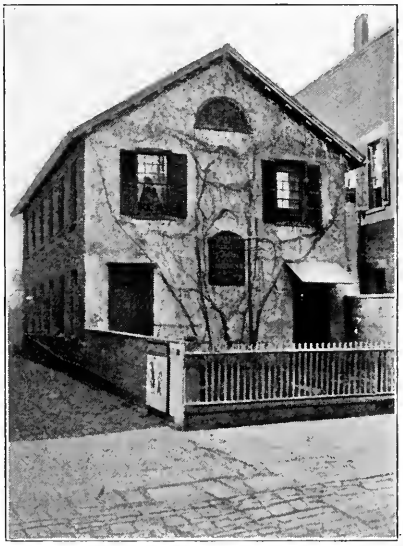


FIG. 60. Oldest house in Newark

Frelinghuysen. An excellent type of the early Dutch settler is Reverend Theodorus Jacobus Frelinghuysen, who came from Holland in 1720. He was the pioneer in establishing the Dutch Reformed Church in New Jersey. His son, Major General Frederick Frelinghuysen, served with great distinction in the Revolutionary War and was a member of the Continental Congress. Among his other descendants were General John Frelinghuysen, an officer in the War of 1812, and Theodore Frelinghuysen, a United States senator and chancellor of the University of New York. The Frelinghuysens have always been closely identified with the political and religious life of New Jersey.

COLONIAL LIFE IN NEW JERSEY

Early homes. The homes of the early settlers were small, comfortable one-story buildings surrounded by gardens. Most of the houses were built of wood, but a few were of stone or brick. Shingles of oak, chestnut, and cedar wood were used for

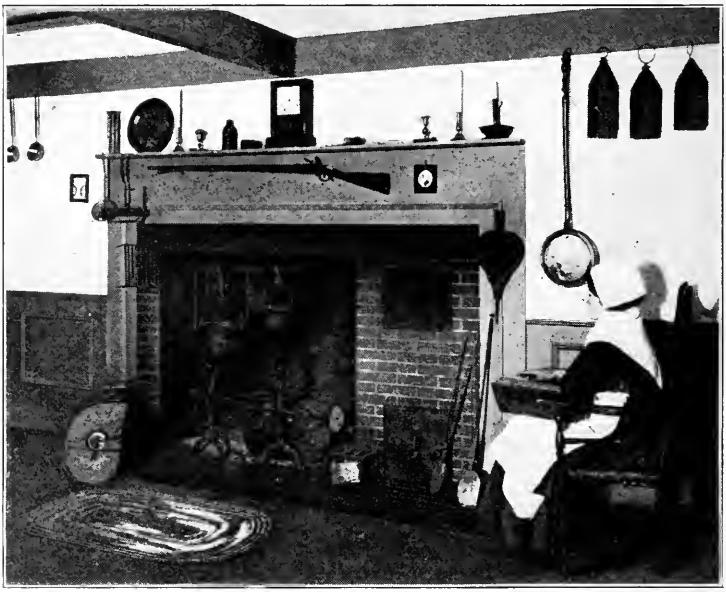


FIG. 61. Fireplace in a colonial kitchen. Most of the domestic life of the time centered about the kitchen

the roof, which sloped down beyond the side walls to form a piazza. Cooking was done in the huge fireplaces, and light was furnished by means of tallow candles or pine knots.

Colonial costumes. The women were quaintly dressed in jackets of cloth or silk and short quilted petticoats. High starched ruffs, worsted stockings of various colors, and high-heeled leather boots completed their costumes. The hair was generally pushed back from the forehead and covered with a cap of muslin, calico, or lace, or sometimes with a silk hood. Rings and brooches were the jewelry most commonly worn.

The men were even more quaintly dressed. The usual costume was a long-waisted coat made with the skirt reaching nearly to the knees, and baggy knee trousers trimmed with buttons. With these they wore gay lace-trimmed vests, black silk stockings, low shoes with silver buckles, and a low-crowned hat.

FIG. 62. Dolls illustrating the Puritan and Cavalier costumes of early New Jersey

Means of travel. The people seldom traveled, but when they did travel they went on horseback or by private conveyance over the old Indian trails until the "wagon road" was built and the first stage line started in 1764. The stage was a covered wagon without springs, called the *Flying Machine*, and it took three days to make the trip from Jersey City to Philadelphia.

Religion and education. As soon as a town was founded provision was made for the religious and educational needs of the people. On the Sabbath everybody was expected to attend church. The first school for the teaching of reading, writing, and ciphering was started at Bergen, now Jersey City, in 1662.

In those early days there were no blackboards, no maps, few textbooks, and very few qualified teachers. The schoolmaster was also the "Voorleezer," or minister's assistant, who led the singing in church and took the minister's place when he was absent. The years from 1734 to 1750 are known as the era of the Great Awakening, when a wave of intense religious feeling swept over all the colonies. In New Jersey fervor was

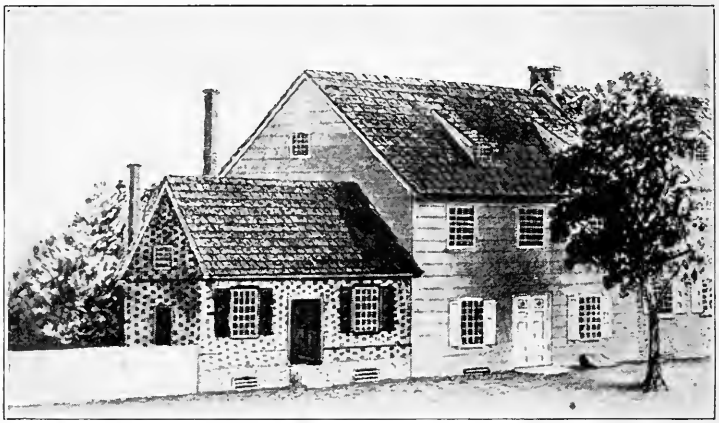


Fig. 63. The old brick office in which Isaac Collins, as printer to the Crown, printed the Continental money. In this office also Benjamin Franklin printed the colonial money of New Jersey, about 1727

aroused by the eloquence of George Whitefield and Jonathan Edwards, who conducted religious revivals. They were assisted by the Reverend Filbert Tennet, John Woolman of the Society of Friends, and David Brainerd, the Indian missionary.

John Woolman. John Woolman was a humble tailor who received his call to speak at the age of twenty-one. Born in New Jersey in 1720, he began in 1746 his many years of wandering and preaching through the American colonies, supporting himself by his trade. It was during these years that he wrote his "Journal," which is the best original document on living conditions in the colonies in the years 1746 to 1771. The "Journal" is partly a record of living conditions and partly a revelation of the author's own soul. Woolman was a practical

man who lived precisely as he wished others to live. He forever preached those ancient truths of humility, hard work, and spiritual devotion which are as true today as they were then. He died in 1772 at York, in the course of a visit to the Society of Friends in England.

Colonial money. For a long time wampum, the shell beads of the Indians, was used in place of money for all business transactions among the colonists. Wampum is the name of black and white beads made from the shells of the clam and periwinkle, and its value depended upon its color, polish, and smoothness. The value of wampum varied at different times, but usually three black or six white beads equaled one stiver, or about two cents of our money. Metal coins were very scarce, even after the Revolution. A few English and Spanish pieces were in circulation, and in 1682 a copper and a silver coin, privately minted by one Mark Newbrie, were authorized by the assembly. At the time of the Revolution New Jersey, like the other colonies, printed paper money.

FIG. 64. The great seal of New Jersey

Amusements of the colonies. Church discipline was a powerful restraint upon the amusements of the colonists. Dancing, card-playing, all forms of gambling and theatergoing, were strictly forbidden by church law. Fox-hunting, fishing contests, and contests of physical strength, such as boxing and fencing, were greatly enjoyed, but horse-breeding and turf-racing led all other sports.

So interested were the great number of gentlemen in this sport that a horse's head was used on the Great Seal of New Jersey adopted in 1776. When the seal for the city of Trenton was designed in 1793 it too bore a horse's head.

A royal governor. In 1747 Jonathan Belcher of Massachusetts was appointed governor by the king. He was a tactful, honest, and just man and did much to soothe the turbulence caused by land quarrels.

Governor Belcher showed a great interest in Princeton College. He granted the necessary charter for its establishment and proved so true a friend of the institution that the trustees desired to name it in his honor, but he declined, suggesting the name of Nassau Hall as an expression of "the honor we retain in this remote part of the globe to the immortal memory of the glorious King William III." The Belcher home is at Elizabeth.

FIG. 65. A royal governor

Slavery in New Jersey. Slaves passing from New York to Philadelphia and the South overran New Jersey. In 1800 there were over twelve thousand slaves in the state, a larger slave population than in any other Northern state except New York.

The people of New Jersey sent petition after petition to the legislature asking for special regulation of slavery. Finally a bill was passed imposing a duty of £15 upon every purchaser of a slave.

The Quakers disapproved of slavery, and early in the life of the colony made this influence felt. One of the first and ablest workers against slavery was John Woolman, who had been one of the leaders of the great religious revival. He traveled throughout the settlements of New Jersey and Virginia preaching to Friends and others against the evils of human slavery. Although Woolman was poor and slavery was an accepted institution, his earnestness and sincerity won many converts. In 1786 a society for the abolition of slavery was formed, and in 1804 an act for the gradual abolition of slavery within the state was passed. This act provided that after

July 4 of that year every boy born of slave parents should become free at the age of twenty-five years, and every girl at the age of twenty-one years. Slavery was abolished by law in New Jersey in 1846.

Attitude of New Jersey toward England. England, like all the European countries, maintained that she had a perfect right

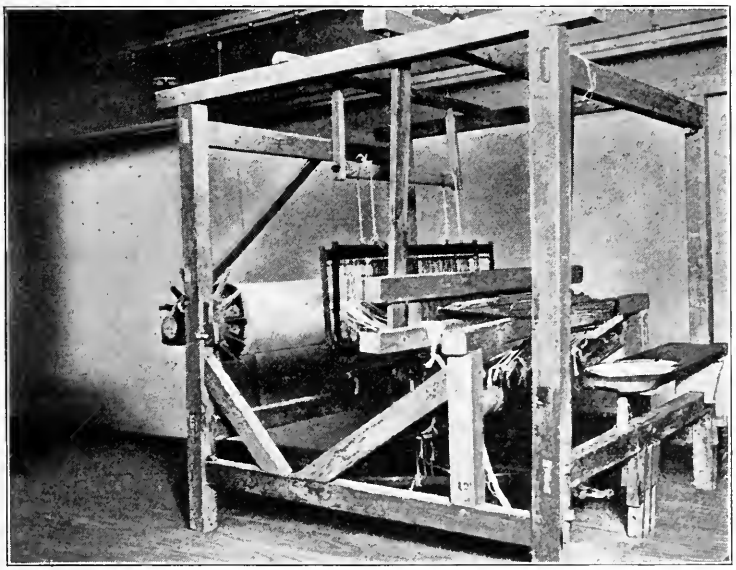


FIG. 66. Colonial loom

to tax her colonies as she saw fit, without regard to the colonists' point of view. The people of New Jersey, law-abiding and just, were nevertheless firm lovers of liberty and objected strongly to England's attitude on taxation. The first meeting of protest was held at Newark, June 11, 1774, followed by one at New Brunswick. From the latter meeting members were chosen to attend the First Continental Congress, which met at Philadelphia, September 5, 1774. On May 23, 1775, the "Provincial Congress of New Jersey," as they called themselves, met at Trenton and assumed complete authority over the province. Steps were taken at this meeting to organize

a militia and to raise money by taxation for its needs. To the Second Continental Congress, then in session at Philadelphia, the New Jersey colonists sent a message of loyalty to the cause of America and professed their willingness to follow the action of the congress.

The last of the royal governors. For over seventy years New Jersey had been a royal province ruled by a governor of the crown, but the growing sentiment of anger against the tyranny of the English king resulted in another meeting of the Provincial Congress of New Jersey. In this meeting it was declared that the state of New Jersey should thereafter be independent of royal authority. Governor Franklin, who had remained loyal to the king, called the legislature together to see if the rising tide of rebellion against England could not be checked; but, instead of submitting to his will, that body declared Franklin an enemy of the country and had him arrested. He refused to give up his authority in the province and was sent to Connecticut, where he was finally paroled and allowed to return to England.

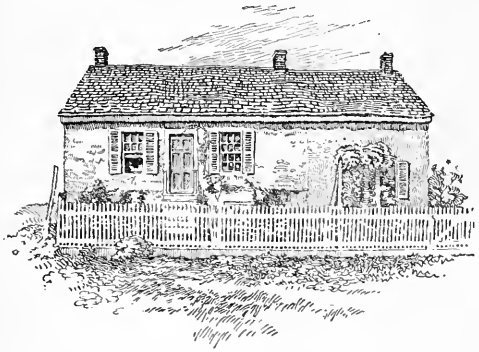


FIG. 67. The Howell House, Greenwich. Here the men from Bridgeton and Fairfield met on their way to burn the *Greyhound's* cargo of tea

Tories and Patriots in New Jersey. In New Jersey's civil life Patriots fought Tories, neighbor fought neighbor. At first the Patriots of New Jersey tried to make the Tories see the justice of their stand for freedom, but when this failed the Tories were disarmed and some arrested. Many fled to the vicinity of New York, where they organized, welcomed the British invaders, and led raid after raid into New Jersey, committing many shocking crimes against the people and their property.

New Jersey's "tea party." The tax on tea had aroused bitter opposition in every colony, and when the English merchants tried to sell tea to the colonists in New Jersey, New Jersey's action was very similar to Boston's. The captain of the *Greyhound*, an English vessel loaded with the hated article, feared

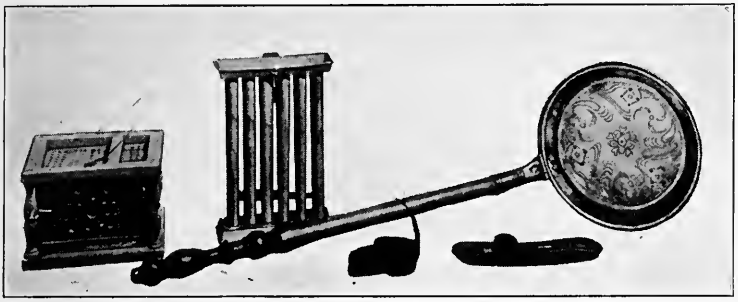


FIG. 68. An old New Jersey foot warmer, candle mold and warming pan

to land his cargo at Philadelphia, so he docked at the little town of Greenwich in Cumberland County and put the tea in a storehouse. A band of Whigs dressed as Indians broke open the storehouse and burned all the tea.

THE REVOLUTIONARY WAR

New Jersey has been rightly called the Warpath of the Revolution. Her open, level lowlands between New York and Trenton—the main point of military advantage between the North and the South—were the camping ground of both armies. Some of the most dramatic events of the war occurred here. Back and forth, retreating or advancing, the British and American armies had three important battles and many skirmishes. The war opened in Massachusetts, moved to New York, then to New Jersey, and ended in triumph in Virginia. It was in New Jersey that the British met with their first defeat, and for three years Washington's men spent the winters in the foothills around Morristown, where evidences of the old quarters may still be seen.

J

Signers of the Declaration of Independence. On July 4, 1776, the Declaration of Independence was proclaimed. Five representatives from New Jersey signed this famous document: Richard Stockton, an eminent lawyer of Princeton; John Witherspoon, president of Princeton University; John Hart, Abraham Clark, and Francis Hopkinson, men of great learning.

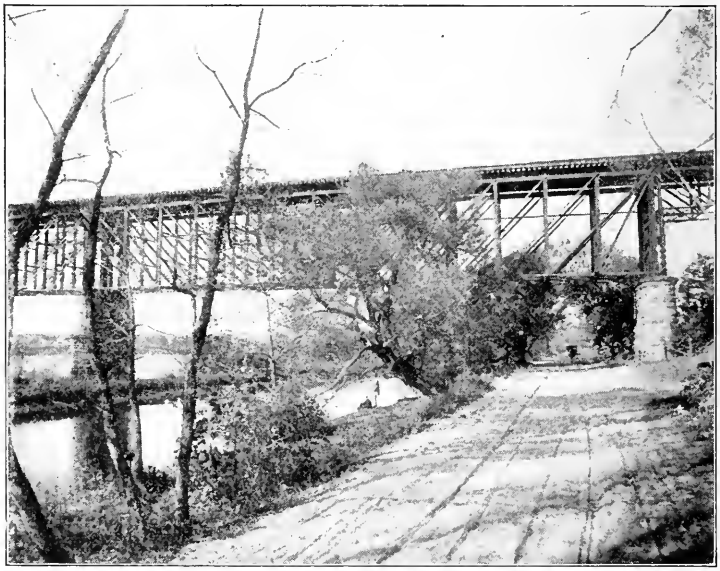


FIG. 69. It was near this spot that Washington crossed the Delaware on Christmas night, 1776, the eve of the battle of Trenton

Washington's retreat. That same year, after the disastrous battle of Long Island, Washington was compelled to surrender Fort Lee and Fort Washington and to begin his retreat across New Jersey. His small army, poorly disciplined, ill-clad and half-fed, were deeply depressed by a succession of defeats and the severity of the weather. They moved wearily on. Cornwallis, the British commander, with troops well-equipped and disciplined, flushed with success, followed closely. Washington, by burning bridges and destroying provisions, was able to delay the enemy, but finding that Cornwallis was pressing

on with a superior force he decided to cross the Delaware River at Trenton. Seizing all the boats up and down the river for many miles, the patriot army embarked and pushed out from the Jersey shore just as the enemy came in sight.

The British go into winter quarters. Cornwallis, feeling that the Revolution was practically ended, decided to close the campaign for the winter and return to England. Detailing his troops to strong points, he sent one detachment to Mount Holly under Von Donop, another detachment to Princeton, and left fifteen hundred Hessians at Trenton under the command of Colonel Rahl.

Battle of Trenton. In this scattered arrangement of troops Washington saw his opportunity for attack. Secret-service men had sent him accurate information concerning the British troops. Only great generals seize opportunities, and Washington's generalship during this gloomy period has never been excelled. On Christmas Day, 1776, he recrossed the Delaware amidst a violent snowstorm, with the river full of floating ice, and hurled his troops on the British at Trenton. Washington divided his men into two columns, commanded by Generals Sullivan and Greene, and ordered the first column to attack the lower end of the city when Greene's column attacked from the north. Colonel Rahl had spent the night in more comfort than diligence. His troops were surprised by Greene's column and driven from place to place. Sullivan, attacking as soon as he heard the musketry from Greene's troops, helped to throw the Hessians into disorder. Caught between two fires, the Hessians began to scatter, their cannon were captured, and Rahl was mortally wounded. Finally the main body, hemmed in on all sides, surrendered. In less than two hours the battle was over and the enemy were dispersed or captured, having lost over one thousand men, killed, wounded, or prisoners, including the commanding officers. Among the spoils were the much-needed cannon and ammunition wagons and all the army's colors. The American loss was confined to two men frozen to death and four wounded. Never was a battle so easily won; never was a victory so complete.

The next day Washington's army was back on its old camping ground. The effect of this victory was overwhelming. The country took new life, the morale of the army was strengthened, and enlistments greatly increased in number. Even some of the Loyalists in New Jersey swore allegiance to the patriot cause. The victory at Trenton was the turning point of the

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FIG. 70. King's Highway, Pluckemin, Morristown. Washington marched to Trenton by this road, and his troops put the milestone here

Revolutionary War. From that time liberty, although sorely tried, was always safe, and Washington took his place among the great commanders of the world.

Cornwallis outwitted. Encouraged by this success Washington again crossed the Delaware to occupy Trenton, but this time Cornwallis, who had canceled his trip to Europe, was on the alert. He hastened from New York to Princeton and, with a strong detachment of soldiers, marched south to subdue Washington. He met Washington's advance guard at the village of Lawrenceville, January 2, 1777, between Trenton and the bend of the Delaware. The advance guard delayed the enemy until dusk, then retired across the only bridge that

spanned the Assanpink Creek in Trenton, where the Americans were intrenched. Three times did the British charge this bridge, only to be driven back each time. Then Cornwallis, feeling assured that Washington could not escape him, withdrew his troops for the night. Washington realized the extremely grave position of his army, hemmed in by the British,

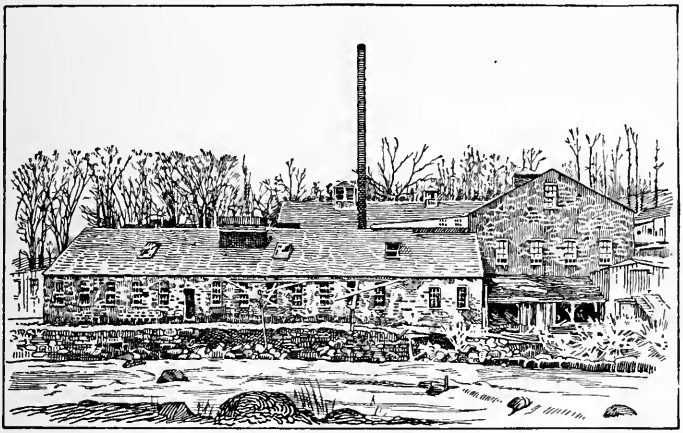

FIG. 71. Where cannon balls were made for Washington's army. The old forge known as the cradle of the iron industry. (Site now covered by the waters of the Jersey City Reservoir)

the Delaware full of floating ice, and the great swamps of New Jersey. He called a council of war to be held in the Douglass House, Trenton. Here a daring scheme was planned, —to march around the British, strike the enemy at Princeton, then reach New Brunswick, where great quantities of British gold and supplies were being held.

With camp fires burning brightly, intrenchments thrown up, and sentinels marching back and forth, the main body of Washington's troops quietly marched away over a newly completed road that led through the great swamp north and west of Trenton.

The next morning Cornwallis was awakened by the sound of cannon coming from the rear, in the direction of Princeton. In desperate haste he set out once more to pursue Washington.

Battle of Princeton. Washington's men had reached Princeton at sunrise, just as three British regiments under Colonel Mawhood crossed the bridge over Stony Brook. The heroic General Hugh Mercer had been detailed to occupy that bridge while Washington with the main column attacked the town. The British forces marching out of Princeton on the way to Trenton defeated Mercer's column and killed that general. Washington's supports, however, renewed the battle in that

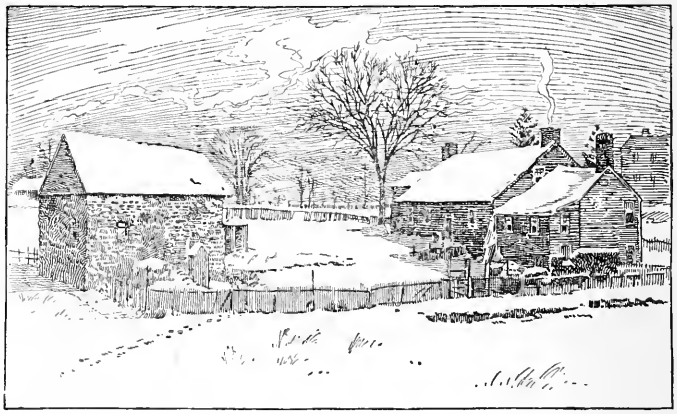

FIG. 72. Johnson's mill and farmhouse. At this mill corn was often ground for the American army during the Revolution. The British raided the place in 1776

quarter. The British were driven back to the college buildings and were finally compelled to surrender. The American victory was complete. Washington and his army then marched to Kingston, and from there to the Highlands around Morristown, where they remained the balance of the winter. The exhaustion of the troops prevented the attack on New Brunswick, and that plan was abandoned.

Some of the ablest and best officers of the American forces gave their lives for freedom during the battle of Princeton. Among these were General Hugh Mercer, who had been a comrade of Washington during the French and Indian War, Colonel Haslet, and Captains Fleming, Neil, and Shippen. Daniel Neil was a native of New Jersey who at the outbreak

of the war had enlisted in the artillery, where his faithful service was commended on more than one occasion.

Howe's expedition into New Jersey. In the spring of 1777 Washington broke camp at Morristown and fortified his army on the heights of Middlebrook. Howe, hoping to draw Washington into the open field and there defeat him, advanced from New Brunswick. A number of skirmishes occurred at Boundbrook, Middlebrook, and Rocky Hill without decisive results.

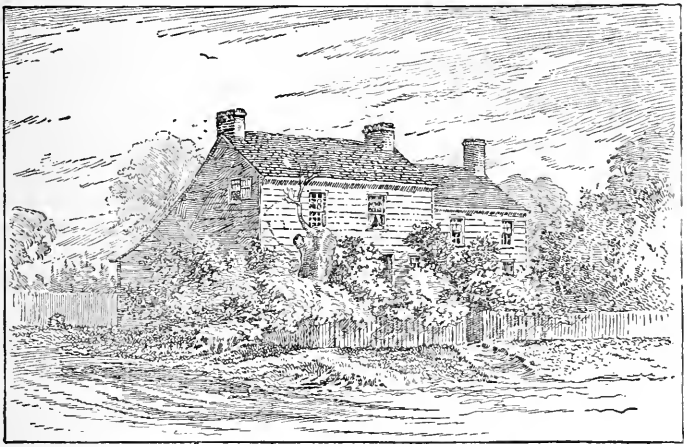

FIG. 73. Washington's headquarters at Pompton, New Jersey

Howe saw that he could not draw Washington into an open combat and decided to march to Philadelphia. He passed through Rahway to Perth Amboy, harassed at every step by Washington's men until in disgust he gave up the land route to Philadelphia and started by sea. He landed at Elkton, Maryland, defeated Washington at Brandywine and Germantown, and then with his army occupied the city of Philadelphia. In order to allow the English fleet to come up the river to Philadelphia, he decided that all forts below this city must be captured.

Attack at Red Bank. Protecting the city of Philadelphia from attack by sea were two forts on the Delaware River, Fort Mifflin on the west shore and Red Bank on the New Jersey

shore. To obstruct the passage between these forts large timbers were chained together in the channel. A gunboat and several small vessels under Commodore Hazlewood gave added protection to the forts. On October 21, 1777, Von Donop, a British commander, marched down the New Jersey shore to Red Bank, which he attacked while the British war vessels bombarded Hazlewood's flotilla. Von Donop was killed, but his men reached Philadelphia safely. Then Cornwallis with five thousand troops set out to capture the forts. He found it a difficult task, but succeeded, forcing Washington to withdraw his army and go into winter quarters at Valley Forge.

FIG. 74. Old powder magazine, Newark. On this site Anthony Wayne is said to have encamped in 1779

Battle of Monmouth Court House. An American victory at Saratoga on October 17 had had one far-reaching result. It brought France actively into the conflict on the American side. This entry of the French nation into the war caused a change in the British plans. A new general, Sir Henry Clinton, assumed command. Fear of an attack by the French fleet caused the British to abandon Philadelphia, and Clinton retreated across New Jersey in order to concentrate his forces at New York. Here was Washington's opportunity. With a well-drilled army he struck the British forces at Monmouth Court House. The unfortunate choice of General Charles Lee as commander of the advance guard wrecked Washington's plans. Lee was ordered to attack, but did so in a half-hearted way. His men were first checked, then defeated, then hurled back in wild confusion on the main army. Only Washington's direct presence rallied these troops. Washington re-formed his men and, seconded by Generals Greene, Wayne, and Stirling,

renewed the battle. Wayne, from an advanced position in an orchard, broke the charge of the British guards and finally compelled the enemy to withdraw. It was a hot, sultry day, June 28, 1778, and both armies were exhausted by the heat, which was so intense that many soldiers died from sunstroke. During the night Clinton slipped quietly away to Sandy Hook, boarded his ships and sailed to New York, where he remained

FIG. 75. Paulus Hook. (From an old print)

until the close of the war. This was the last great battle on Northern soil. It was a victory for Washington, but not a decisive one. Afterwards the war was transferred to the South, where the struggle finally ended with the surrender of Cornwallis at Yorktown.

Mollie Pitcher. "Mollie Pitcher," a large and powerful woman, played an unusual part in the battle of Monmouth Court House. During the battle, while she was carrying water to the gunners, she saw her husband shot down. Putting aside her water pail, she bravely took his place at the cannon for the remainder of the battle. The following day General Greene presented her to General Washington, who cited her for bravery. The real name of this remarkable woman was Mary McCauly.

Paulus Hook. Paulus Hook, now the center of Jersey City, was captured by the Americans in August, 1779, by one of the most daring raids of the war. This fort was separated from the mainland by salt meadows and fortified by breastworks, a blockhouse, and cannon. Early in the morning Major Harry Lee and Captain Allen McLane, with but a small portion of their men (about one hundred and fifty soldiers), surprised the fort and at the point of bayonet and sword captured

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FIG. 76. Washington's headquarters, Morristown

it, taking over one hundred and fifty prisoners. Congress ordered a gold medal to be given Major Lee in recognition of his brave act.

The winter of 1779 at Morristown. The winter of 1779 was very severe. It was bitterly cold, and deep snow covered the ground. The condition of Washington's men was pitiable. Without permanent huts, on half allowance, without warm clothing, shoes, or blankets, they endured the intense suffering of Valley Forge over again. Conditions were improved in February, when the soldiers had taken possession of huts; and with the welcome return of spring came Lafayette and the glad tidings of new help from France.

New Jersey's quota in the Revolutionary War. At the beginning of the Revolutionary War New Jersey furnished two battalions of eight companies each. Each company was composed of sixty-eight privates, whose term of enlistment was one year and whose pay was $5 a month. A third battalion was raised for the campaign in Canada. In September, 1776, Maxwell's brigade of four battalions was organized. Three other regiments took part in the siege of Yorktown.

FIG. 77. Independence Monument at Springfield

The critical period in New Jersey. During the Revolutionary War the Patriots of New Jersey endured greater hardships than those of any other state. Because of her central position two conflicting armies camped, marched, and fought on her soil. When the invading armies left, partisan warfare broke out. Tories raided and kidnaped her people, while the "pine robbers," bands of desperate men who lived in the wooded sections of Monmouth County, killed and robbed Tories and Patriots impartially. The people were deeply in debt, their industries were destroyed, and agriculture was at a standstill. Jealousies between states sprang up, and the Articles of Confederation lost all power of holding the states together. Thoughtful men realized that prosperity and real peace could only come through a national government strong enough to control all the states.

PERIOD OF THE CONFEDERATION

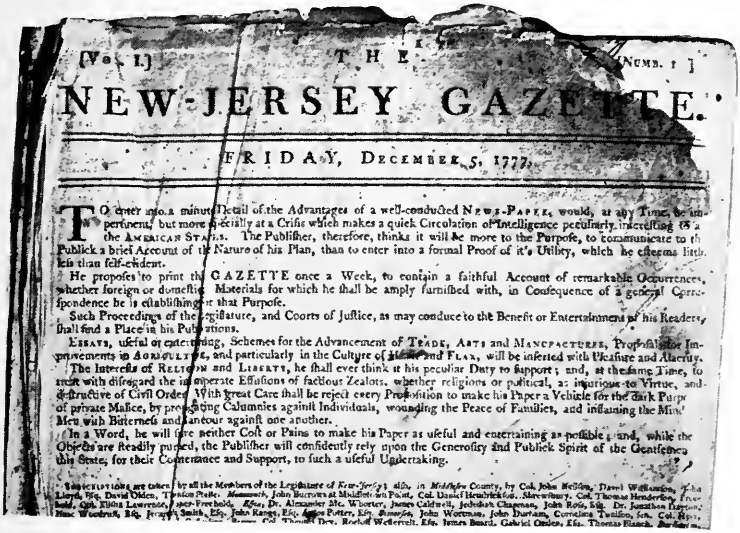
In 1781 the Articles of Confederation, fathered by Benjamin Franklin, became the law of the land. These provided for a loosely joined union in which the central government could only advise and recommend action since there was no executive department to enforce its recommendations. The individual states seemed unwilling to lose any of their powers. As a result many acts were not enforced; Congress soon lost all dignity, and its influence grew weaker and weaker.

New Jersey's quarrel with New York. The lack of a strong central power soon led to more or less violent controversies between the different states. New Jersey was no exception and was soon involved in a quarrel with New York which arose over two questions: first, paper money; second, customs duty. New Jersey had printed large quantities of paper money, which New York refused to accept. New York had passed a customs duty on all imported articles passing through her port. In order to keep her coined money she had also placed a customs duty on all garden truck from New Jersey and all firewood from Connecticut. New Jersey objected to paying this duty and appealed in vain to Congress, which seemed too weak to act. Then New Jersey in retaliation placed a tax of £360 a year upon the lighthouse at Sandy Hook and called upon New York for payment.

New Jersey refuses to pay her quota. The colonists had incurred a debt of $6,000,000 in their fight for freedom, and the Continental Congress had proportioned this amount among the several states, although it had no power to enforce payment. After her quarrel with New York, New Jersey voted that she would not pay her quota of the national debt until all the states accepted a measure of an import—customs duty—for the benefit of the general treasury. This was practically a declaration of independence. In March, 1786, a committee of the Continental Congress came to New Jersey to reason with her. The state, they claimed, was in honor bound to pay her debt. Finally, on the invitation of the Continental Congress

to meet with all the other states to discuss all grievances, New Jersey recalled her vote on this measure and elected three delegates to the Annapolis Convention. They were Abraham Clark, William Churchill Houston, and James Schurman.

The Annapolis Convention. Only five states—New Jersey, Pennsylvania, Delaware, Maryland, and Virginia—sent delegates to this convention. The instructions to the New Jersey



[Vol. I.] THE [Numb. 1]

NEW-JERSEY GAZETTE.

FRIDAY, December 5, 1777.

TO enter into a minute Detail of the Advantages of a well-conducted News-Paper, would, at any Time, be impertinent, but more especially at a Crisis which makes a quick Circulation of Intelligence peculiarly interesting to all the American States. The Publisher, therefore, thinks it will be more to the Purpose, to communicate to the Publick a brief Account of the Nature of his Plan, than to enter into a formal Proof of it's Utility, which he esteems little less than self-evident.

He proposes to print the GAZETTE once a Week, to contain a faithful Account of remarkable Occurrences, whether foreign or domestic; Materials for which he shall be amply furnished with, in Consequence of a general Correspondence he is establishing for that Purpose.

Such Proceedings of the Legislature, and Courts of Justice, as may conduce to the Benefit or Entertainment of his Readers, shall find a Place in his Publications.

Essays, useful or entertaining, Schemes for the Advancement of Trade, Arts and Manufactures, Proposals for Improvements in Agriculture, and particularly in the Culture of Hemp and Flax, will be inserted with Pleasure and Alacrity.

The Interests of Religion and Liberty, he shall ever think it his peculiar Duty to support; and, at the same Time, to treat with disregard the intemperate Effusions of factious Zealots, whether religious or political, as injurious to Virtue, and destructive of Civil Order. With great Care shall he reject every Proposition to make his Paper a Vehicle for the dark Purpose of private Malice, by propagating Calumnies against Individuals, wounding the Peace of Families, and inflaming the Minds of Men with Bitterness and Rancour against one another.

In a Word, he will save neither Cost or Pains to make his Paper as useful and entertaining as possible; and, while the Objects are steadily pursued, the Publisher will confidently rely upon the Generosity and Publick Spirit of the Gentlemen of this State, for their Countenance and Support, to such a useful Undertaking.

Subscriptions are taken by all the Members of the Legislature of New-Jersey; also, in Middlesex County, by Col. John Neilson, David Williamson, John Lloyd, Esq. David Olden, Thomson Stelle. Monmouth, John Burrows at Middletown Point, Col. Daniel Hendrickson. Shrewsbury, Col. Thomas Henderson, Freehold, Col. Elisha Lawrence, Upper-Freehold, Essex, Dr. Alexander Mc. Whorter, James Caldwell, Jedediah Chapman, John Ross, Esq. Dr. Jonathan Dayton, Isaac Woodruff, Esq. Jeremiah Smith, Esq. John Range, Esq. Amos Potter, Esq. Somerset, John Wortman, John Durham, Cornelius Tunison, sen. Col. Hyer, [illegible] Col. Theunis Dey, Roeloff Westervelt, Esq. James Beard, Gabriel Ogden, Esq. Thomas Blanch. Burlington,

FIG. 78. Facsimile of the first newspaper published in New Jersey

delegates were to discuss the commercial question of duty and *all other important matters.* Alexander Hamilton of New York, who was present at the convention, at once saw the value of these instructions. He proposed another meeting of delegates to discuss *other important matters*, which really meant the entire revision of the Articles of the Confederation. Congress approved this plan, and delegates from all the states except Rhode Island were chosen for the second convention.

The Constitutional Convention. In May, 1787, a convention composed of fifty-five delegates, representing all the states except Rhode Island, met in Philadelphia to form a national constitution. Washington presided over the convention, which

included the ablest men of the country. The Constitution framed by the great wisdom of these men stands today as a world-famous instrument of government.

Virginia and New Jersey each proposed plans for a new constitution. Virginia wanted two branches in the legislature, New Jersey one; Virginia would have legislative powers derived from the people, New Jersey from the states; Virginia would have a single executive, New Jersey more than one. By the Virginia plan the national legislature could act on national concerns and control or destroy all state law; by the New Jersey plan the national legislature could act only to a limited extent in all concerns. In brief, Virginia proposed a national government, New Jersey a confederate government.

Alexander Hamilton spoke against the New Jersey plan. He claimed it was the same old Articles of Confederation, with a few new patches, and compared it to the same piece of pork with change of sauce!

The Virginia plan was adopted with some modifications. The confederate government is embodied in the United States Senate, in which every state, large or small, has equal representation. This was New Jersey's greatest part in the framing of the Constitution. New Jersey had declared that the rules of commerce ought to be regulated by the national government. She had also declared that the laws and treaties of the United States should be the supreme laws of the state. Both of these propositions were embodied in the new constitution.

New Jersey's delegates to this convention were William Livingston, chief justice of New Jersey for twelve years; William Paterson, a delegate to the Provincial Congress in 1775, senator, attorney-general, and associate justice of the United States; William Churchill Houston, a member of Congress and professor of mathematics at the College of New Jersey (Princeton); Jonathan Dayton, Speaker of the House of Representatives and United States senator; Abraham Clark, a signer of the Declaration of Independence.

After the Constitution was accepted by the convention it was sent to the different states to be voted upon by the people.

New Jersey without a dissenting vote accepted the Constitution in December, 1787, being the third state to ratify.

How New Jersey tried to make Trenton the national capital. In 1783, at the Annapolis Convention, the Continental Congress considered the location of a permanent federal capital. Previous to this time it had held meetings in Philadelphia, Baltimore,

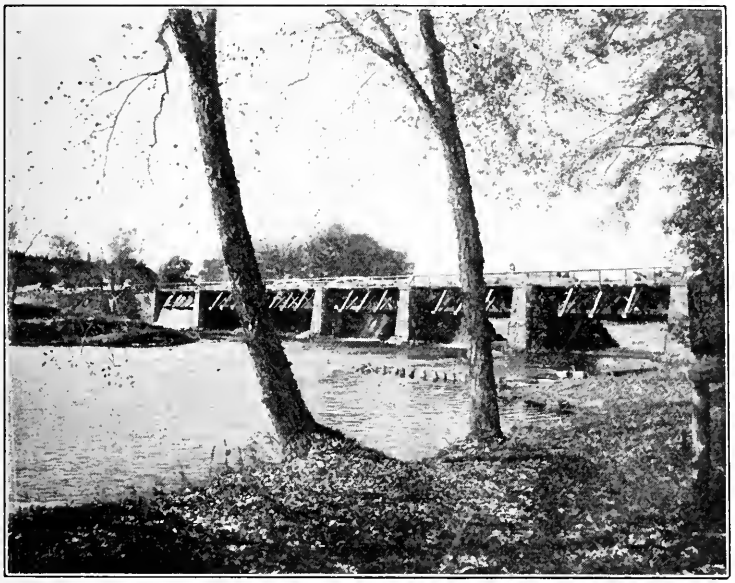


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FIG. 79. Aqueduct over the Pompton River. Morris Canal

Lancaster, York, Princeton, and Annapolis. New Jersey immediately offered to grant land twenty miles square anywhere within its borders for a capital. Congress met at Trenton in 1784, when the question was again discussed. The Southern states held out against the capital being so far north, and even the personal influence of Washington could not change their decision. In 1801 a final unsuccessful attempt was made to secure the United States capital for Trenton or some neighboring place on the Delaware River. Although it failed to become the national capital, Trenton has been the state capital since 1790.

Development of New Jersey. During the latter part of the eighteenth century New Jersey's growth was marked by improved settlements; the establishment of continuous land and water routes from Philadelphia to New York; the building of ferries and post roads; the establishment of post offices at Trenton, Perth Amboy, and Burlington; the chartering of Princeton University and Rutgers College; the building of barracks; and the establishment of the first Indian reservation in the United States in Burlington County.

Thirteen original counties. On the eve of the Revolution New Jersey's population was about 80,000 and her counties numbered 13: Salem, 1675; Gloucester, 1677; Middlesex, 1682; Essex, 1682; Bergen, 1682; Monmouth, 1682; Somerset, 1688; Cape May, 1692; Burlington, 1694; Hunterdon, 1714; Morris, 1739; Cumberland, 1748; and Sussex, 1753.

The first president. Washington was unanimously elected the first president of the United States and started on his journey from his home on the banks of the Potomac to the national capital, which was then New York. When he reached Trenton —the scene of his great victory—he found that a grateful people had erected a triumphal arch on the bridge which spanned the Assanpink Creek. It was here that Washington, by a masterly stroke, had saved the day for freedom. Deeply moved by the warmth of his welcome, Washington majestically rode his horse through the arch of thirteen pillars covered with evergreens and laurels and bearing inspiring inscriptions. As he reached the Trenton side of the bridge flower girls singing a song of praise strewed his path with blossoms.

Federalists in New Jersey. The years immediately following the Revolution brought into existence the two political parties, the Federalists and the Republicans, which have finally become the Republican and Democratic parties of today. The differences in the beliefs of the two parties were brought out strongly in the making of the Constitution, the Federalists favoring a strong central government and the Republicans wishing to give the greater power to the states. New Jersey

was small in area and in population, conservative, and accustomed to a strong central power in her own government, hence it was natural for her to be strongly Federalist. The first three governors under the Constitution—William Livingston, William Paterson, and Richard Howell—were prominent members of that party and for twenty-six years kept its influence uppermost in the political affairs of the state.

NEW JERSEY AS A STATE

New Jersey about 1800. The population of the state in 1790 was a little more than one hundred and eighty-four thousand, which placed New Jersey the ninth state in that respect. Today New Jersey holds tenth place. There were few towns of importance, however, and no large cities, the people being widely scattered and few of them well-to-do. The farms, upon which the greater proportion of the people lived, had been ruined by the passing and repassing of the armies, and transportation was almost negligible, since there were neither railroads nor canals. But the industry and enterprise of the inhabitants enabled the state to recover rapidly from its impoverished condition. Farseeing and progressive citizens were beginning to plan improvements in the means of travel and transportation; industries of many kinds were being promoted; and manufacturing, which had been almost at a standstill for several years, was begun again with energy and determination.

Early industries. As early as 1676 shoes had been made in Elizabeth, and four years later the first flour mill was built in Trenton. This was soon followed by the first sawmill, erected at Woodbridge, and in 1698 the first tannery was established at Newark. These four industries were probably the only ones to be carried on to any great extent until 1728, when the manufacture of paper was commenced at Elizabeth. By 1769 there were forty paper mills in the state. At the falls of the Passaic the city of Paterson was founded in 1791 under the patronage of Alexander Hamilton, Secretary of the Treasury, who saw the immense possibilities of the water power of

the falls. In 1794 the first factory for the printing of calico goods was completed there. Today it is a city of factories.

Development of the steamboat. John Fitch, an expert mechanic, was the first inventor of the steamboat. Lacking the necessary money to carry out his project Fitch petitioned the state of New Jersey for aid, and in 1786 the New Jersey legislature granted him the exclusive right to use steamboats on all the waters of the state for a period of fourteen years. He built four boats, one of which traveled at the then astounding rate of a mile in seven and a half minutes. This was sixteen years before Fulton's *Clermont* steamed up the Hudson. It has been proved that Fulton had access to Fitch's drawings and, being a more practical man, made his steamboats succeed where Fitch's failed.

The *Phœnix*, the first steamboat to navigate the ocean, was designed, constructed, and navigated by John Stevens and his son Robert L. Stevens—citizens of New Jersey—in 1808. The first steamboat to cross the Atlantic Ocean was the *Savannah*, which was constructed at the Vail works in Speedwell, near Morristown, ten years later.

Industry after 1800. The industrial development of New Jersey was extraordinarily rapid during the years following 1800, when the promise of the latter part of the eighteenth century was fulfilled. It is estimated that there were in the state some eleven hundred mills of which nearly one half were devoted to the milling of flour. In Morris County the deposits of iron ore furnished the raw product for forges, furnaces, and rolling and slitting mills, which gave employment to many people. Because of the good grazing lands merino sheep were very numerous, and the carding of wool became an active industry.

Better-roads movement. This growing industrial life in the state made good roads and ease of transportation imperative. The construction of turnpikes throughout central and northern New Jersey did much to aid both travel and transportation, and no less than fifty-four charters for the construction of such roads by private companies were issued in the first thirty years of the century. This was the beginning of the good-roads

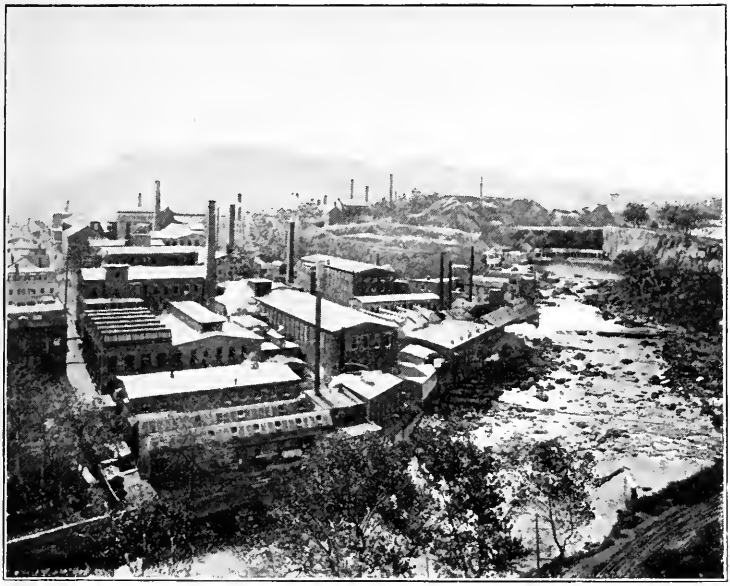

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FIG. 80. Recent view of Paterson, from Reservoir Park

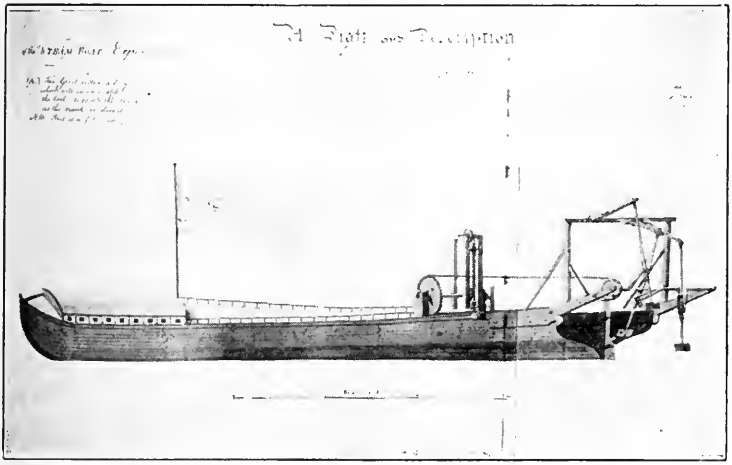

FIG. 81. A contemporary draft of one of Fitch's steamboats which was in use in 1790

movement, in which New Jersey still excels. New Jersey was later the first to give state aid for the improvement of roads.

Early railroads. In 1814 the legislature of New Jersey granted one of the first railroad charters in the United States. This road was to run from Trenton to New Brunswick, and the fact that this was projected before the conclusion of the War of 1812 shows clearly how little that conflict had affected the economic prosperity of the state. With the completion of a single-track railway from Camden to Perth Amboy in 1834, New York and Philadelphia were connected for the first time. Following the enactment by the legislature of a general railroad law which opened the way to all railroad enterprises, the growth and development of New Jersey's many thoroughfares was rapid. The first steam locomotive in America to transport passengers on a railroad track was built at Hoboken in 1825. At Bordentown, in 1831, an English locomotive, the *John Bull*, was given a successful public trial. For thirty years this locomotive gave good service, and it is now in the United States National Museum at Washington. During the Columbian Exposition, in 1893, the *John Bull*, under its own steam, made the trip from Philadelphia to Chicago and back.

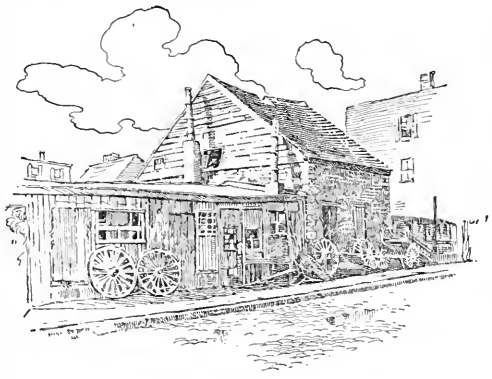

FIG. 82. The first mill, erected in 1671 in Newark

Early waterways. The number of natural waterways within the state aroused a desire to use these as a means of travel and transportation and to improve upon the existing routes. Thus the building of canals, once advocated, received earnest support. The first to be built in New Jersey was the Morris Canal, connecting Jersey City and Phillipsburg. The charter for this

canal was granted in 1824, but the canal was not finished until twelve years later, in 1836. In 1830 the second important

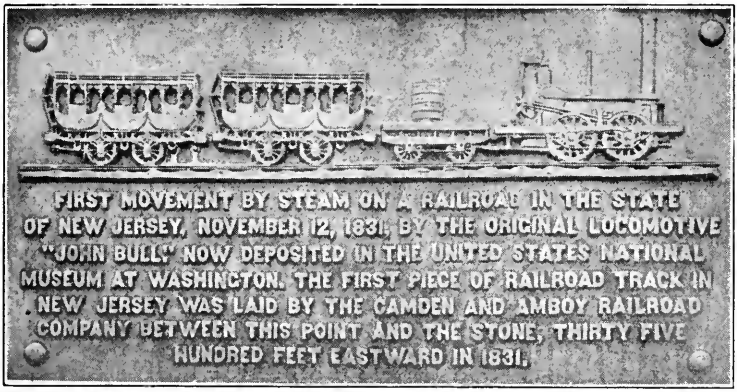

FIG. 83. Tablet commemorating the first railroad in New Jersey

canal, the Delaware and Raritan, from New Brunswick to Bordentown, was authorized by the New Jersey legislature.

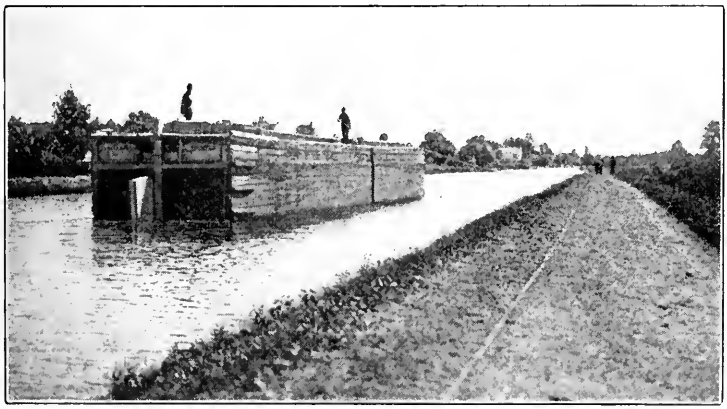

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FIG. 84. The Morris Canal

State constitution. The first state constitution of New Jersey was adopted in 1776 and continued in force until 1844, when a convention was called at Trenton to revise it. There were sixty delegates, proportioned among the several counties

according to their population. This convention made several important amendments to the old constitution: (1) the governor was to be elected by the direct vote of the people for a term of three years and was not eligible to succeed himself; (2) the office of chancellor was made a separate and distinct position; (3) suffrage was given to every male citizen of twenty-one years or over who had resided in the state one full year. The spirit

Fig. 85. Liberty Hall. Residence of Governor Livingston, Elizabethtown

of the old constitution remained and does remain to this day; its evident errors only have been remedied. In 1875 the constitution was again amended, the most important section of this amendment being the provision for the establishment and support of a system of free public schools for all children within the state between the ages of five and eighteen years. No state has made a more far-reaching provision for its public-school system than has New Jersey.

William Livingston. Under the first constitution of New Jersey there were fourteen governors, each chosen by the legislature. The first governor was William Livingston of Elizabeth, who served continuously from 1776 to 1790. Livingston was learned in the law, an eminent essayist, and an ardent

patriot. He had been a delegate to the First Continental Congress and was well fitted by training and habit to fill an executive position during the trying times of the Revolution. William Livingston was a splendid character and a man always honored by New Jersey people.

New Jersey's part in the War of 1812. During this war New Jersey suffered no invasion, but there were several minor naval

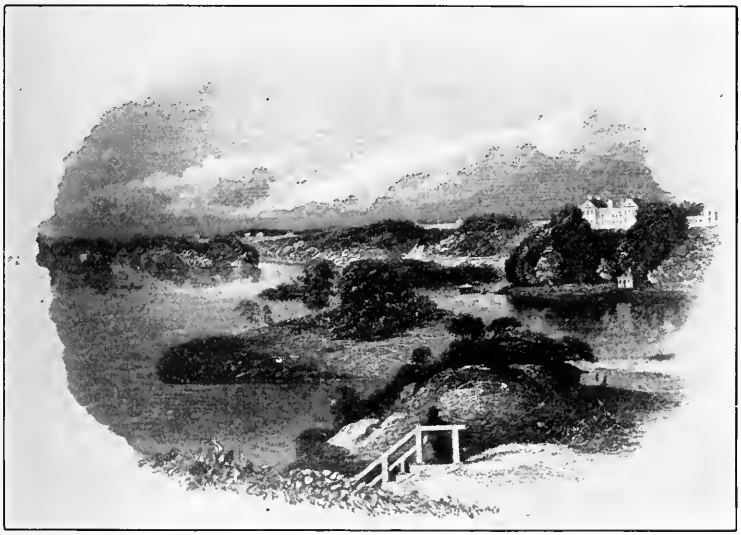

FIG. 86. The Bonaparte House

engagements within the waters of the state. Her military efforts on land were directed toward the protection of the neighboring cities of New York and Philadelphia rather than of her own sandy coast, and to this end the state militia, mobilized as soon as war was declared, were stationed at Sandy Hook and Billingsport. When the British fleet blockaded the Atlantic seaboard, New Jersey, owing to her position, once more became the main thoroughfare for the military supplies between the North and the South.

Two New Jersey men were famed for heroic deeds on the sea—William Bainbridge of Princeton, the commander of the

Constitution when she captured the British man-of-war *Java*, and James Lawrence of Burlington, whose dying cry of "Don't give up the ship!" became the battle cry of the navy.

As a whole New Jersey was opposed to this war. The people voted the Federalist party into power and passed resolutions against the war party, but as a loyal state she gave freely of

Fig. 87. Newark. Broad Street, looking south, 1854

her troops and money. In all, over six thousand officers and privates were in the service of the United States government.

Joseph Bonaparte. After the defeat of Napoleon Bonaparte at the battle of Waterloo, his brother, Joseph Bonaparte, ex-king of Spain, fled to America. He purchased a country estate at Bordentown, New Jersey, and while there engaged in agriculture under the title of Comte de Survilliers. The count was kind, hospitable, and agreeable, and his neighbors esteemed him highly. In 1832 he returned to Europe, after which for many years the Bonaparte mansion and grounds at Bordentown were of great interest to tourists.

Seth Boyden (1785–1870). Several American inventors of note have lived in New Jersey and brought fame and prosperity to their native or adopted state. Among the earliest of these

was Seth Boyden, who lived for many years in Newark, one of the oldest towns in the country, dating back to 1666. Newark grew very slowly, for after one hundred years the town had less than a thousand inhabitants. At the close of the War of 1812 Seth Boyden, who possessed great inventive talents, came to Newark and awakened the city to industrial prosperity.

FIG. 88. The Vail Telegraph House, Morristown. Here the first practical model of the telegraph was made and operated

Boyden started a foundry which produced the finest tools and machines. He invented a method of casting malleable iron and was the first man to make patent leather. His later experiments were along different lines. In agriculture he experimented with the small wild strawberry until he produced the large garden variety enjoyed today. Newark's rapid growth dates from the days of Seth Boyden.

Stephen Vail (1780–1864). Another inventor of whom New Jersey is justly proud is Stephen Vail, owner of the ironworks at Speedwell, near Morristown. Vail was a natural mechanic.

As a lad he saw a cut-nail machine for a few minutes and was later able to reproduce the machine, which turned out nails at a profit. At his ironworks the boiler and shaft of the first ocean-going steamship, the *Savannah*, were made. Two sons of Stephen Vail greatly assisted Samuel F. B. Morse, the inventor of the telegraph, with money, materials, and labor. The alphabet characters and a number of features of the telegraph have been credited to one of these sons, Alfred Vail.

The Mexican War. In 1846, shortly after the new state constitution went into effect,[1] the United States declared war upon Mexico over the boundary line of Texas, which had been admitted to the Union as a state the previous year. Four companies of New Jersey infantry aided General Winfield Scott in his victorious march from Vera Cruz to the City of Mexico. In the other field of the struggle—California, which was still Mexican territory—General Stephen Kearny and Commodore Robert Stockton gained important victories and helped to organize a strong government in that great region, which soon after the close of the war also became a part of the Union.

Industrial growth. New Jersey, in common with the rest of the country, had suffered severely from two panics: one in 1817, primarily brought about by excessive importations of European manufactured goods after the War of 1812 and the resulting scarcity of gold or silver for domestic uses; another twenty years later, when the unheard-of prosperity of the previous years had brought about a feeling of false security regarding wealth, and bank notes flooded the state. Then, as in the earlier panic, there was no "hard money" to replace the paper money, fortunes disappeared overnight, and suffering and want were found everywhere.

Within eight years, however, conditions were changed, and manufacturing was resumed on a greater scale than ever before. In the southern part of the state the glass industry and the growing number of woolen mills gave employment to more and more people; in the north the ironworks, with their mills, foundries, and machine shops, and the silk mills and potteries

[1] P. 125.

had the same result. Cotton-manufacturing became common throughout the state, and paper mills were found in most sections. Along the coast shipbuilding became more and more important. These and many other manufacturing industries soon made New Jersey one of the foremost industrial states of the Union—a position which she still holds today, for even the great strain of the Civil War could not take from her the leading position which she had gained in these years.

Fig. 89. Worn and carried about the time of the Civil War

The Civil War. No conflict in the four long years of the Civil War took place on New Jersey soil, but New Jersey men fought throughout the war for the Union. The state responded with eagerness to President Lincoln's call for troops, and so anxious were her men to volunteer that no draft was necessary to meet the national demands. On May 1, 1861, at Trenton, the New Jersey brigade was mustered into the United States service, and when the capital at Washington was threatened by the Confederates this brigade was the first one to reach the city. In all, New Jersey gave above ninety thousand men and spent nearly $3,000,000 for their support and equipment. The men of New Jersey were brave and fearless soldiers and took part in many hard-fought battles. They were led part of the time by General Philip Kearny, whose preference for New Jersey troops is well known.

Joel Parker (1816–1888). The great war governor of New Jersey was Joel Parker, who served from 1863 to 1866. During the invasion of Pennsylvania in 1863, he hurried troops to the support of that state. He was a master of finance and managed so ably that the state of New Jersey paid all her war debt before the surrender of General Lee and still had a surplus in the treasury. Parker was elected governor again in 1872 and afterwards became attorney-general, and in 1880 was made a justice of the Supreme Court.

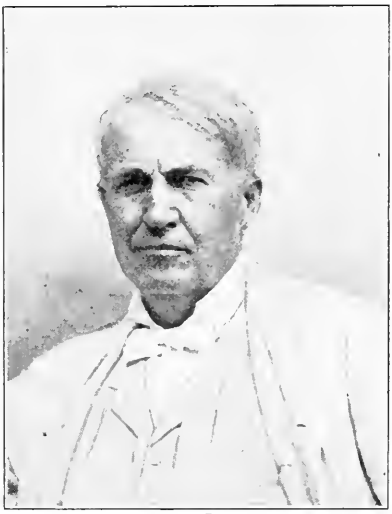

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FIG. 90. Thomas A. Edison

Thomas Alva Edison (1847–). The name of Edison is probably more widely known than that of any other New Jersey inventor, for Thomas A. Edison is one of the world's greatest electricians. He has very extensive laboratories near Newark, where most of his inventions have been worked out. There he invented the electric-light bulb and there also he produced the phonograph. He improved and perfected the moving-picture machine until today it is one of the greatest educational factors. These are only a few of his numerous inventions which have aided the progress of industry and given employment to hundreds of New Jersey people.

The war with Spain. The blowing up of the battleship *Maine* in the harbor of Havana brought about war between the United States and Spain in 1898. New Jersey sent four regiments into the military service and many naval reserves into the active naval service of the government. This war resulted in a complete victory for the United States, and Spain lost all her possessions in the Western Hemisphere. The war had very

little direct effect upon New Jersey, for the scenes of actual warfare were so far from our shores, and the briefness of the war prevented any industrial disturbance.

Educational institutions of New Jersey. From its earliest days New Jersey has striven for the best in education. The first known school in the state was a little Dutch school in the town

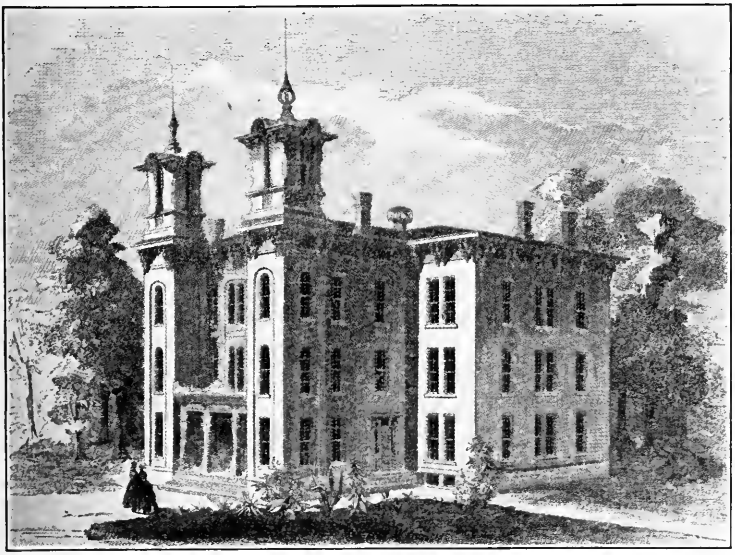

FIG. 91. The original building of the State Normal School at Trenton

of Bergen, which was opened in 1662. Upon the site of this first school now stands Public School No. 11 of Jersey City. Other schools were early established at Newark, Woodbridge, Perth Amboy, Elizabeth, and Freehold, but the first one of which there now exists a record was that at Burlington in 1683. The growth of schools has been so rapid that today over two thousand public schools and many private and denominational schools care for New Jersey's half-million children.

In 1693 the first legislative act favoring the public schools was passed, authorizing the people to establish schools and maintain them by taxation. Today the laws of the state compel all children between the ages of seven and sixteen to

attend school regularly unless granted an age and labor certificate excusing them from school attendance.

Normal schools. Realizing that the education and training of its future citizens rests with the teachers, the state of New Jersey supports normal schools for the training of teachers at Trenton, Montclair, and Newark. City normal schools are maintained for the same purpose at Jersey City, Paterson, and

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FIG. 92. State Normal School, Newark

Camden. There are summer schools at Ocean City, Collingswood, New Brunswick, and Newton; industrial schools at Trenton, Newark, and Hoboken; and a school for the training of teachers for defective children at Vineland.

Princeton University. The oldest and most famous educational institution in New Jersey is Princeton University at Princeton. At the beginning of the eighteenth century there were in the United States but three institutions of higher learning: Harvard in Massachusetts, William and Mary College in Virginia, and Yale in Connecticut. In 1746 a charter for the establishment of a college in the middle colonies was obtained. The Reverend Jonathan Dickinson was named president and opened the College of New Jersey in Elizabethtown in April, 1747. It was soon afterwards removed to Newark, and the Reverend Aaron Burr became its president. Under his care

the first commencement was held in 1748. Princeton was finally chosen as the ideal location for this college, and the ground was broken for the first of the permanent buildings in 1754. This was called Nassau Hall[1] in memory of King William III, who belonged to the illustrious House of Nassau.

John Witherspoon was the most distinguished president of the college in its early years. He was an ardent patriot, a

FIG. 93. Princeton University

member of the Continental Congress, and a signer of the Declaration of Independence and of the Articles of Confederation. During the Revolutionary War the College of New Jersey suffered severely from the contending armies. Nassau Hall was badly damaged and the library partly destroyed. In 1896 the college celebrated its one hundred and fiftieth anniversary, and at that time changed its name to Princeton University.

Philip Freneau. Many prominent men received their instruction at the College of New Jersey during the trying days of the Revolutionary War. Among these were James Madison, Aaron Burr, Henry Lee, Morgan Lewis, and Philip Freneau. The last named, a student of John Witherspoon, did much for the cause of freedom by his writings, which glowed with love

[1] P. 102.

of country. He was a writer of satire and bitterly attacked the oppressors of the colonies, chiefly King George and General Burgoyne. During the Revolutionary War Freneau was captured off Cape May and cast into the foul hold of the prison ship *Scorpion*, which lay at anchor in New York Bay. After his release he poured out his soul for American democracy. He was one of the founders of the American Whig Society. Freneau, while in the employ of the Secretary of State, Jefferson, wrote such bitter attacks on Alexander Hamilton that Hamilton held Jefferson responsible as well as Freneau and retaliated upon both. After retiring from politics Freneau settled at Mt. Pleasant, near Freehold, Monmouth County, where he spent the remainder of his life.

FIG. 94. Grover Cleveland. A famous resident of New Jersey and at the time of his death a trustee of Princeton University

Rutgers College. On November 10, 1766, Queen's College was granted a royal charter in the name of George III. This charter, amended by Governor William Franklin,[1] required the president to be a member of the Dutch Reformed Church in America, although no sectarian religious instruction was given. In 1808 the college hall was begun on the present campus, and in 1825 Colonel Henry Rutgers of New York made such a generous gift to the college that its name was changed to Rutgers in his honor.

A scientific department was added in 1863, and in April, 1864, the legislature of New Jersey declared Rutgers Scientific School to be "the State College for the Benefit of Agriculture

[1] P. 104.

and the Mechanic Arts." By an act of Congress, July 2, 1862, a department known as the Agricultural Experiment Station had been added to Rutgers. A college farm of three hundred and fifty acres is now used for a course of training in scientific agriculture where experiments upon cattle and with crops and fertilizers are carried on. Bulletins with results of experiments are sent to farmers and are proving very valuable.

Stevens Institute of Technology. John Stevens of Hoboken, a man of great inventive genius, designed the first steam ferry-boat to ply its way from Hoboken to New York. He invented the tubular boiler and, assisted by his son Robert, built the steamboat *Phœnix,* which was the first steam vessel to navigate the ocean. Two of his sons, Robert L. and Edwin A. Stevens, were inventors of merit who added many improvements to vessels, engines, and railway tracks. Edwin A. Stevens bequeathed a block of ground in the city of Hoboken and an endowment fund for the erection of buildings "suitable for the use of an institution of learning." In 1870 a charter was obtained for the Stevens Institute of Technology, and the brilliant scholar, Professor Henry Morton, was chosen president.

A mechanical laboratory was added five years later. Stevens Institute of Technology is a school of mechanical engineering with a single four-year course of study. It grants the degree of mechanical engineer and the honorary degrees of doctor of philosophy and doctor of science.

The World War. In 1914, when the World War broke out so unexpectedly in Europe, it was thought that the United States would not be drawn into the conflict any more than had been the case in other foreign wars. But within a short time the error of this was apparent, and the war involved almost the entire civilized world. On April 6, 1917, Congress formally declared that a state of war existed between the United States and Germany.

Camp Dix. To raise an overseas force a Selective Service Act was passed by Congress on May 18. This automatically inducted into the military and naval service all the physically fit young men of the country between the ages of twenty-one and

thirty. In order to train these young men, taken from all paths of life, thirty-two camps, or cantonments, for soldiers were started in as many different parts of the country. One of the largest of these camps was located at Wrightstown, New Jersey, and was named Camp Dix in honor of Major General John Adams Dix, a soldier in the Civil War.

New Jersey troops. The greater number of the New Jersey men who were chosen for the army under the Selective Service Act became a part of the 78th Division, commonly called the Lightning Division, which was organized and received its training in this country at Camp Dix. These New Jersey men were placed in the 311th and 312th Infantry regiments and in the 308th Field Artillery and were under the command of Major General James H. McRae.

The New Jersey National Guard (with the exception of the 1st and 2d Companies of Coast Artillery and the 1st Ambulance Company),[1] together with the National Guards of Virginia, Maryland, and the District of Columbia, composed the 29th Division, which was mobilized at Camp McClellan in Alabama, under the command of Major General Charles Morton.

The 78th Division in the World War. The news came on Friday, May 17, 1918, that the 78th Division was to sail "over there" and take active part in the World War. So well trained were they that in less than thirty-six hours the 311th Regiment, of thirty-six hundred men with great quantities of baggage and equipment, had left Camp Dix, reached New York, and embarked aboard Army Transport 599 for France. After training for two months with the British the 78th Division was moved to an American sector to act as reserves in the St. Mihiel offensive. After that victory they were placed in the front line in the Linney sector for aggressive patrolling duty; next the division was sent to relieve the 77th Division

[1] The 1st Coast Artillery was assigned to the 11th Coast Artillery, the 2d Coast Artillery to the 2d Trench Mortar Battery, both for service in the United States. The 1st Ambulance Company was attached to the 42d Division (the "Rainbow Division"), which reached France in October, 1917, and which fought in Lorraine and Champagne, along the Aisne, Marne, and Meuse Rivers, and at St. Mihiel.

and thereafter took part in the Meuse-Argonne offensive. The towns of Grand Pré and Bois-des-Loges were reduced after desperate assaults, the latter placé being captured on November 2, 1918. After this the division made a rapid advance of twenty-one kilometers and successively occupied seven towns after desperate fighting. General John J. Pershing specially commended the 78th Division for aggressive work.

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FIG. 95. The piers of a trans-Atlantic line at Hoboken

The 29th Division in France. The 29th Division reached France during June and July, 1918, and after a short preliminary training in the interior of that country was sent first to an inactive sector in Alsace north of the important fortress of Belfort. After the service here was completed the troops were given their final training near Belfort and were sent to join the First Army as reserves to the 17th French Army Corps in the Meuse-Argonne offensive. On October 11 the 29th Division took complete charge of a sector north of Verdun, driving the Germans slowly and steadily back until October 30, when they were relieved by a fresh division.

Home again. New Jersey men served in many other divisions of the American Expeditionary Force, but not as distinct state units. Also, as in the case of every other war in which our country has been engaged, many men from our state were enrolled in the navy, where they served with equal distinction. All operations ceased on Armistice Day, November 11, 1918, and the country faced the great task of bringing home the

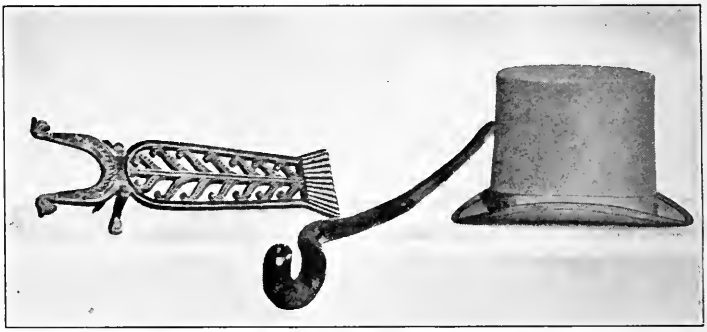

FIG. 96. Bootjack, cane, and hat belonging to a New Jersey citizen about the year 1850

troops. By the close of the year 1919 the New Jersey men had been demobilized in the United States and had returned to civil life, and their great sacrifices and struggles became a part of the history of our state and our country.

From this study of the geography and history of New Jersey you will see that the state is a land of opportunity. Here men from the four quarters of the world have made their homes. The thrifty Dutch, God-fearing Puritans, conscientious Scotch, cultivated Huguenots, peaceful Friends, with courageous and industrious men and women from Ireland, Sweden, and Denmark, have always stood sturdy and strong in the defense of their state and of the Union. In science, art, literature, religion, agriculture, and industry New Jersey stands in the front rank as one of the great states of the Union.

CIVICS

AN OUTLINE OF THE GOVERNMENT OF NEW JERSEY

LOCAL OR MUNICIPAL GOVERNMENT

Origin. The earliest form of local government used in New Jersey was the New England township form, but the great increase of population and the difficult problems of modern living have caused this form of government to be abandoned in the densely settled portions of the state. Newer types or forms of government, such as the incorporated town, the borough, and the city government, have now taken its place.

Distinguishing features of local governments. The various types of local government best suited to the crowded districts are the incorporated town, the borough, and the city. Under these types of government the people, instead of voting directly on every question of local importance, elect delegates to represent them. As these municipalities are regulated to some extent by state laws, they thus become a part of the state government. These local governments are similar, differing only in the wider range of welfare offices necessary to the greater population of town or city.

The township. The township form of government provides a simple and effective way of caring for the welfare of the district. At the general election the voters elect the various officers to whom they are entitled by law; namely, a township committee of three members, which is the legislative body of the township; a justice of the peace, who is the judicial officer; a constable, who is the executive officer of the justice's court; a town clerk, who acts as secretary of the township committee; a tax collecter; an assessor; a surveyor of highways; and a poundkeeper.

The village. A part of a town may become a village by a vote of its inhabitants provided it has at least three hundred inhabitants to every square mile of the territory to be thus set apart. At present there is but one village in the state.

The borough. A borough, which is a popular form of municipal government for a small community, may be formed from a township, a village, a town, a city, or a portion of two or more townships. There is no limit to its size; in fact, the population of a borough ranges from less than one hundred to more than five thousand. This area, having a distinctive name, is incorporated by a separate act of the legislature, which sets forth its boundary lines. The principal officers of a borough are elected by the people. These officers are a mayor, six councilmen, three assessors, and a tax collector. The mayor may appoint a clerk for the borough, an engineer, an overseer of the poor, one or more marshals, a poundkeeper, a superintendent of highways, and a borough recorder subject to approval of the council. The council appoints an attorney. The head of the borough government is the council (comprised of the mayor and the six councilmen), who see that the laws of the state and the ordinances of the borough are enforced. This body, by proper ordinances, provides for the raising of money by taxation for police and fire protection; lighting, sprinkling, and improving the streets; water supply and sewerage; and all general expenses of the borough. The mayor presides at these meetings, but votes only in case of a tie. When he is absent the president of the council presides over the meeting, but, unlike the mayor, the president votes on every motion brought before the council.

The incorporated town. The incorporated town is very similar to the borough, which has largely supplanted it. An incorporated town must have a population of five thousand or more. In its formation, the officers, and their functions it differs very little from the borough. It is organized on the basis of wards, and instead of a mayor it has a councilman at large, who not only presides at its meetings but exercises all the usual powers of a councilman.

The city. Any town, borough, or township exceeding 5000 inhabitants may become a city by a separate act of the legislature. Each city is governed by a charter granted to it by the state legislature. As the legislature may pass general laws or restrictions for the administration of city affairs, it becomes necessary to classify all cities for purposes of legislation. Cities of the first class are those exceeding 150,000 inhabitants; cities of the second class, those having from 12,000 to 150,000 inhabitants; and cities of the third class, those having under 12,000 inhabitants, except the cities of the Atlantic coast which serve as summer resorts. These are classified as fourth-class cities.

The cities of New Jersey as a rule are divided into wards, and each ward has a representative in the common council or in the board of aldermen, as the case may be. In large cities the legislative body is called the board of aldermen and in the smaller cities it is called the common council. Many cities have what is called the departmental system of government. Most of the executive work is done by departments. There are departments of police, fire, parks, water, street cleaning, etc., each having its own chief, who reports directly to the mayor and council, since he has no executive power beyond that delegated by the authorized power at the head of the city government. Besides these, there are a board of water commissioners, a board of public works, a city engineer, and a city treasurer.

Commission government in New Jersey. The newest type of municipal government developed in the past decade has been the commission government, so termed because the government is intrusted to a board or commission. It was first tried in the city of Galveston, Texas, after the flood of 1900 had completely destroyed that city. The remarkable progress made in Galveston under its new charter caused other Western and Southern cities to adopt this modern form of government. One of the first eastern cities to adopt commission government was Trenton, in 1911. Since that time many other New Jersey municipalities have voted favorably for the

commission plan of government. Among these are Atlantic City, Newark, Jersey City, Paterson, Passaic, Vineland, Long Branch, Bordentown, Millville, Ocean City, and Haddonfield. The modern features that are lacking in many cities are embodied in this new form of government; namely, (1) the placing of the municipal governing authority in a small body of men elected at large, not by wards; (2) the power to exercise administrative and legislative functions and the privilege of appointment by the board; (3) the placing of each commissioner in charge of a definite department and making him responsible to the people for its proper and intelligent management; (4) the power given to the people to secure honest and efficient government through the medium of the initiative, referendum, and recall.[1] The intrinsic value of commission government really rests on these cardinal principles.

Under the New Jersey statute the executive, administrative, and legislative authority is vested in the commissioners elected, whether three or five in number. A commissioner on being assigned to any department has absolute control and is also individually responsible to his fellow commissioners and to the people for his own actions and those of his subordinates. The mayor, who is the director of public affairs, is advisory director to every commissioner.

Ordinances as distinguished from laws. A law is an act passed by the legislature and signed by the governor which affects all the inhabitants of the state; an ordinance is an act passed by legislative power of a municipality which affects only the inhabitants in that municipality. In brief, a law is general, while an ordinance is local.

[1] The *initiative* allows the legal voters under certain conditions to submit ordinances to the commissioners for consideration; that is, proposes legislation. The *referendum* compels the commissioners under certain conditions to submit ordinances to the legal voters for approval either at a general election or a special election; that is, repeals, rejects, or approves legislation. The *recall* allows the legal voters under certain conditions to recall an elective officer from the position to which he was elected; that is, dismisses or recalls from office.

Local Boards or Commissions

Board of health. The duty of a municipal board of health is to safeguard the health of the community by making and enforcing laws of sanitation. The board must take especial precautions and measures to prevent the spread of contagious diseases among both men and animals, to safeguard the purity of the food and milk supplies, and to strive to lower the death rate of the municipality. In cities and boroughs the members of the board, who serve three years without compensation, are appointed by the mayor by and with the consent of the council. In townships they are appointed by township committees.

Board of education. Each school district, which may consist of a city, a township, a borough, or an incorporated town, has in most instances a board of education of nine persons, who serve without pay. These members are usually elected by the people at the annual school meeting. By a vote of the people the number of members of a board of education may be reduced to five or even to three. The duty of the board of education is to determine each year the amount of money necessary for school expenses and for building and repairs, to employ teachers, to buy textbooks and supplies, and to provide for the general welfare of the schools. In a city school district this board is appointed by the mayor.

Board of street and water commissioners. The board of street and water commissioners is appointed by the mayor by and with the advice and consent of the council in cities and boroughs. Their duties are to provide a proper water supply for the municipality and to have charge of all street improvements.

Functions of a local, as distinguished from a state, government. A local government is concerned with the immediate needs of a small portion of a state. Its ordinances affect only a limited number of people, while the state government oversees the general welfare of all municipalities in their relation to the state, and its laws are general, affecting all the people of the state.

COUNTY GOVERNMENT

Administrative officers and their duties. The administration of a county is in the hands of six officers and two boards. Most of these are elected by the people, and their duties are, of course, purely local.

The sheriff. The chief executive officer is the sheriff, whose duty is to maintain peace and to subdue riots or violence. He is the jailer of the country and must care for all prisoners in the county jail. He also executes the judgments of the courts or judgment for debt.

Prosecutor of pleas. Each county has a prosecutor of pleas, who is appointed by the governor and who must be a lawyer, since he represents the state in the prosecution of persons charged with crime. Further, he should be a counselor at law, as in New Jersey there is a distinction between an attorney and a counselor at law.

Coroners. Three coroners are elected in each county whose duty it is to hold inquests into sudden or unnatural deaths of persons. The coroners may summon a jury to determine the cause of death and may cause the arrest of anyone whom this jury accuses of murder.

County clerk. The county clerk, elected by the people for a term of five years, is the clerk of all county courts except the orphans' court. He has many duties and must keep the minutes of all the proceedings of the courts and all records of deeds or mortgages on personal property and chattels. In his office are filed the contracts for buildings and the claims for unpaid taxes. He issues marriage certificates to nonresidents of the state and records the articles of incorporation of private companies before filing them with the secretary of state.

The surrogate. The surrogate is elected by the people for five years. Through him all wills are registered, and he may appoint an administrator for an estate or a guardian for a minor or incompetent person.

County collector. A county collector may be elected by the people or by the board of freeholders, depending on the size

of the county. He is the custodian of all county moneys, which he pays out on orders of the board of freeholders. He receives all state and county taxes from the local collectors and pays over to the state treasurer all state tax moneys. He also receives from the state treasurer the state appropriations for the county's local use, including the state school moneys, which he in turn pays to the custodians of the local school districts on the order of the county superintendent of schools.

County board of taxation. In each county there is a county board of taxation which supervises the assessment of property and the collection of taxes. It is composed of three members appointed for three years by the governor by and with the advice and consent of the senate. No more than two members may be of the same political party.

County superintendent of schools. The county superintendent of schools has general supervision over all the schools in the county. He is appointed by the commissioner of education and serves for three years.

Board of freeholders. Counties are governed by boards of freeholders. The larger boards are composed of one member from each township, one from each ward in a city, and one from each borough having a population of three thousand or more. This makes a rather unwieldy board in some of the larger counties. A recent law, however, provides for a board of freeholders of nine, seven, five, or three members, as the people at election may decide. These smaller boards become very efficient. Business is transacted more rapidly, and the general good of the county is taken into consideration rather than the good of special localities. The board appropriates money for maintaining all county offices and institutions, for building and repairing bridges, for county roads, etc. This money is raised annually by taxation, but the board of freeholders has nothing to do with determining the rate of the taxation.

Functions of county as distinguished from municipal and state governments. A county has no power to enact ordinances or laws such as is vested in a state or municipality. It is an agency for carrying out existing legislation, not for enacting new laws.

County institutions. The counties of New Jersey support a number of county institutions. Among these are a county almshouse, county insane asylum, and a county tuberculosis hospital. The money for the support of these institutions is raised by a property tax.

STATE GOVERNMENT

The governor. The executive power in New Jersey is vested in a governor, elected by the people for a term of three years. He cannot succeed himself in office, but there is nothing to prevent his serving a second term later. The duty of the governor is to see that the laws are obeyed. He commands the soldiers of the state and, whenever necessary, has the power to order the whole national guard out for the protection of life or property. In case of the death or disability of the governor the president of the senate acts as governor until his successor is elected.

Secretary of state. The secretary of state, appointed by the governor for five years, is the proper authority to certify to the correctness of all laws. All nominations for state offices, all election returns, original wills, and articles of incorporation of railways, railroads, and industrial companies are filed in the office of the secretary of state.

Attorney general. The attorney general is appointed by the governor for a term of five years. He acts as legal adviser to the governor, to all state officers, and to the legislature when there is any doubt whether or not a bill conforms to the constitution. He also acts as counsel of the state.

Comptroller. The state comptroller is appointed in a joint session of the legislature for three years. His duty is to superintend the collection of state revenue, to take charge of all interests and property of the state, and to audit all bills and accounts against the state.

State treasurer. The state treasurer is appointed by the state legislature in joint session for the term of three years. He has charge of all the state money.

Commissioner of banking and insurance. This commissioner is appointed by the governor, with the approval of the senate, for a term of three years. His duty is to examine the condition of state banks, loan associations, and all foreign fire-insurance and life-insurance companies.

Commissioner of education. This officer is appointed by the governor with the consent of the senate for a period of five years. The commissioner exercises supervision over the schools of the state receiving any part of the state appropriation. He is also secretary of the state board of education.

State board of education. The state board of education consists of ten members appointed by the governor acting with the senate. No more than five members shall be of the same political party, and no two shall be appointed from the same county. This board has the general supervision and control of public instruction in New Jersey.

The legislature. The legislative department of New Jersey is vested in a senate and general assembly. The senate is composed of one senator from each county, or twenty-one in all. About one third of the senators are elected each year for a term of three years. The general assembly is composed of members elected annually and apportioned among the several counties according to population.

Legislative committees. After the legislature convenes each house selects its own speaker, who then divides his house into standing committees, each with a special purpose. There are committees on banking, forestry, school, etc. When a bill or a proposed law is introduced in the assembly or the senate it is referred by the speaker to the proper committee for consideration. In due time this committee takes up the bill and reports it to the house where it originated.

How laws are made. If, after three readings in each house, a bill receives the majority vote of both houses it is sent to the governor for his approval. If he approves it he signs it, and the bill becomes a law. If the governor does not approve the bill he may return it within five days to the house where it originated, with his written objections. It may then be taken

up again, and if it receives a majority vote of all members of each house it may be passed as a law over the governor's veto. A bill may become a law without the governor's signature if he does not veto it within five days after it has been presented to him, Sunday excepted.

Veto power of the governor compared to that of the president. The state legislature can pass a bill over the governor's veto by a majority vote of each house. The United States Congress requires a two-thirds vote of each house before it can pass a bill over the president's veto.

State highway commission. The state highway commission was created in 1917 and has supervision over the construction and maintenance of all the state highways.

Public utilities commission. According to an act passed by the legislature in 1921 the public utilities commission is now composed of three members, appointed by the governor by and with the advice and consent of the senate. The commissioners hold office for six years and not more than two may be of the same political party. The commission has supervision and control of railroads, canals, heat, light, and power, and the telephone and telegraph systems of the state.

ELECTIONS

Suffrage qualifications. Every citizen twenty-one years of age or over who has resided in the state at least one year and in the county where he registers at least five months preceding the election is given the right of suffrage.

Primaries and general elections. Primary elections to nominate the party candidates, to select such party officers as committeemen, or to choose delegates to the national conventions are held each year on the fourth Tuesday of September; the general elections, at which the various elective officers of the state, county, or municipality are chosen, are held in November. The general election of school officers takes place in March.

Registration. Every citizen must be registered in order to cast a ballot for a general election. In smaller municipalities

the registry list is obtained by a house-to-house canvass; in large municipalities the board of registry sits for three days for the purpose of giving voters an opportunity to register.

Corrupt practices law. In order to purify elections certain restrictions have been placed on all candidates for elective offices. A limit has been placed on the amount of money which may be expended, and an itemized statement of the amounts expended must be filed with the proper authorities. Promises of appointment to subordinate positions are illegal, and no employer is allowed to intimidate his employees.

JUDICIAL SYSTEM

Local Courts in Towns and Cities

Justice's court. The justice's court is presided over by a justice of the peace elected by the people. He tries petty (small) cases. Civil and criminal suits involving a sum of $200 or less are also tried in this court.

Police court. A police court is composed of a justice appointed by the mayor, who tries petty criminal cases only. An appeal from a justice's court is taken to the court of quarter sessions, while an appeal from a police court is taken either to the court of quarter sessions or common pleas or to the supreme or circuit court.

District courts. A very important court in cities is the district court. This court coincides with the justice's court in smaller municipalities but has a larger money jurisdiction.

County Courts

Three courts. The county courts embrace the circuit court, orphans' court, and court of common pleas, which try all civil cases, and the court of quarter sessions and court of oyer and terminer, which try all criminal cases. All the judges are appointed by the governor, all trials are by jury, and appeals are made to the state courts.

State Courts

Character. These courts comprise five principal courts, each of which, except the court of errors and appeals, has original jurisdiction as well as the power to hear appeals from the county and local courts. All judges are appointed by the governor, and there are no juries.

The prerogative court, presided over by the chancellor, has authority to probate wills, to issue letters of administration, and to settle all disputes relating to these on appeals from the orphans' court.

The court of chancery, according to the constitution, shall consist of a chancellor. He may appoint vice chancellors. The court considers will and property cases in which it appears that the statute law is inadequate to render justice.

The court of pardons grants pardons and remits sentences. In this court the governor sits with the judges.

The supreme court is composed of the chief justice and eight associate justices. Its jurisdiction covers all the points of common law. It has power to review the decisions of all other courts except the court of errors and appeals.

The court of errors and appeals is composed of the chancellor, the justices of the supreme court, and six other specially appointed justices. It is the highest court in the state, and its decision is final, except that appeal may be taken to the United States Supreme Court.

The court of impeachment is not actually a part of the judicial system of the state. It is a court created from the legislative body for definite purposes. It sits rarely and consists of the members of the senate, who try the governor or any state official for misdemeanor while holding office. A bill of impeachment must originate in the assembly. A two-thirds vote is necessary for conviction, and there is no appeal from the decision of this court.

APPENDIX

FORMATION OF COUNTIES

	County Seat		County Seat
Salem, 1675	Salem	Morris, 1739	Morristown
Gloucester, 1677	Woodbury	Cumberland, 1748	Bridgeton
Bergen, 1682	Hackensack	Sussex, 1753	Newton
Middlesex, 1682	New Brunswick	Warren, 1824	Belvidere
Essex, 1682	Newark	Passaic, 1837	Paterson
Monmouth, 1682	Freehold	Atlantic, 1837	Mays Landing
Somerset, 1688	Somerville	Mercer, 1838	Trenton
Cape May, 1692	Cape May Court House	Hudson, 1840	Jersey City
		Camden, 1844	Camden
Burlington, 1694	Mount Holly	Ocean, 1850	Toms River
Hunterdon, 1714	Flemington	Union, 1857	Elizabeth

CHRONOLOGICAL LIST OF GOVERNORS

Cornelius Jacobsen Mey (director of New Netherlands)	1624
William Verhulst (director of New Netherlands)	1625
Peter Minuit (governor of New Netherlands)	1626–1631
Bastiaen Janssen Crol (director general of New Netherlands)	1631–1633
Wouter Van Twiller (governor of New Netherlands)	1633–1637
William Kieft (governor of New Netherlands)	1633–1637
John Printiz (governor of New Sweden)	1642–1653
Peter Stuyvesant (governor of New Netherlands)	1646–1664
Philip Carteret (first English governor)	1664–1676

East Jersey

Philip Carteret	1677–1682
Robert Barclay (proprietary governor in England)	1682–1690
Thomas Rudyard (deputy governor)	1682–1683
Gawen Lawrie (deputy governor)	1683–1686
Lord Neil Campbell (deputy governor)	1686–1687
Andrew Hamilton (deputy governor)	1687–1690
Edmund Andros (royal governor of New York)	1688–1689
John Tatham (proprietary governor—rejected by the province)	1690

Joseph Dudley (proprietary governor—rejected by the province)	1692–1697
Andrew Hamilton	1692–1697
Jeremiah Basse	1697–1699
Andrew Bowne (deputy governor)	1699
Andrew Hamilton	1699–1702

West Jersey

Board of Commissioners	1676–1681
Edward Byllinge (governor)	1680–1687
Samuel Jennings (deputy governor)	1681–1684
Thomas Ollive (deputy governor)	1684–1685
John Skene (deputy governor)	1685–1687
Daniel Coxe	1687–1692
Edmund Andros (governor of New York)	1688–1689
Edward Hunloke (deputy governor)	1690
West Jersey Society of Proprietors	1691
Andrew Hamilton	1692–1697
Jeremiah Basse (of both provinces)	1697–1699
Andrew Hamilton	1699–1702

East and West Jersey United

Edward, Lord Cornbury (governor)	1703–1708
John, Lord Lovelace (died in office)	1708
Richard Ingoldsby (lieutenant governor)	1709–1710
General Robert Hunter	1710–1719
Lewis Morris (president of council)	1719–1720
William Burnet	1720–1728
John Montgomerie	1728–1731
Lewis Morris (president of council)	1731–1732
William Cosby	1732–1736
John Anderson (president of council)	1736
John Hamilton (president of council)	1736–1738

(The foregoing were also governors of New York at the same time.)

Separate from New York

Lewis Morris	1738–1746
John Hamilton (president of council)	1746–1747
John Reading (president of council)	1747
Jonathan Belcher	1747–1757
Thomas Pownall (lieutenant governor)	1757

John Reading (president of council)	1757–1758
Francis Bernard	1758–1760
Thomas Boone	1760–1761
Josiah Hardy	1761–1762
William Franklin	1763–1776

From the Adoption of the State Constitution

William Livingston (Federalist)	1776–1790
William Paterson (Federalist)	1790–1793
Richard Howell (Federalist)	1793–1801
Joseph Bloomfield (Democrat)	1801–1802
John Lambert (president of council and acting governor) (Democrat)	1802–1803
Joseph Bloomfield (Democrat)	1803–1812
Aaron Ogden (Federalist)	1812–1813
William S. Pennington (Democrat)	1813–1815
Mahlon Dickerson (Democrat)	1815–1817
Isaac H. Williamson (Federalist)	1817–1829
Garret D. Wall (Democrat)	1829–decl'd
Peter D. Vroom (Democrat)	1829–1832
Samuel L. Southard (Whig)	1832–1833
Elias P. Seeley (Whig)	1833
Peter D. Vroom (Democrat)	1833–1836
Philemon Dickerson (Democrat)	1836–1837
William Pennington (Whig)	1837–1843
Daniel Haines (Democrat)	1843–1844
Charles C. Stratton (Whig)	1845–1848
Daniel Haines (Democrat)	1848–1851
George F. Fort (Democrat)	1851–1854
Rodman M. Price (Democrat)	1854–1857
William A. Newell (Republican)	1857–1860
Charles S. Olden (Republican)	1860–1863
Joel Parker (Democrat)	1863–1866
Marcus L. Ward (Republican)	1866–1869
Theodore F. Randolph (Democrat)	1869–1872
Joel Parker (Democrat)	1872–1875
Joseph D. Bedle (Democrat)	1875–1878
George B. McClellan (Democrat)	1878–1881
George C. Ludlow (Democrat)	1881–1884
Leon Abbett (Democrat)	1884–1887
Robert S. Green (Democrat)	1887–1890
Leon Abbett (Democrat)	1890–1893
George T. Werts (Democrat)	1893–1896

John W. Griggs (Republican)	1896–1898
Foster M. Voorhees[1] (Republican)	
David O. Watkins[2] (Republican)	
Foster M. Voorhees (Republican)	1899–1902
Franklin Murphy (Republican)	1902–1905
Edward C. Stokes (Republican)	1905–1908
John Franklin Fort (Republican)	1908–1911
Woodrow Wilson (Democrat)	1911–1913
James F. Fielder[3] (Democrat)	
Leon R. Taylor[4] (Democrat)	
James F. Fielder (Democrat)	1914–1917
Walter E. Edge (Republican)	1917–1919
William N. Runyon[5] (Republican)	
Edward I. Edwards (Democrat)	1920–

Other Acting Governors of New Jersey

The following is a list of presidents of the senate who served as acting governors for brief periods during temporary absence of regular governors.

William M. Johnson (Republican), Bergen	1900
Edmund W. Wakelee (Republican), Bergen	1904
Joseph S. Frelinghuysen (Republican), Somerset	1909
Ernest R. Ackerman (Republican), Union	1911
John Dyneley Prince (Republican), Passaic	1912
John W. Slocum (Democrat), Monmouth	1914
Walter E. Edge (Republican), Atlantic	1915
George W. F. Gaunt (Republican), Gloucester	1916–1917
Thomas F. McCran (Republican), Passaic	1918

UNITED STATES SENATORS

The following is a list of the United States senators for New Jersey from 1789 to date:

Jonathan Elmer, from March 4, 1789, to March 3, 1791.
William Paterson, from March 4, 1789, to November 23, 1790.
Philemon Dickinson, from November 23, 1790, to March 3, 1793.
John Rutherford, from March 4, 1791, to December 5, 1798.

[1] Acting governor from February 1, 1898, to October 18, 1898.
[2] Acting governor from October 18, 1898, to January 16, 1899.
[3] Acting governor from March 1, 1913, to October 28, 1913.
[4] Acting governor from October 28, 1913, to January 20, 1914.
[5] Acting governor from May 16, 1919, to January 20, 1920.

Frederick Frelinghuysen, from March 4, 1793, to November 12, 1796.
Richard Stockton, from November 12, 1796, to March 3, 1799.
Franklin Davenport, from December 5, 1798, to February 14, 1799.
James Schureman, from February 14, 1799, to February 26, 1801.
Jonathan Dayton, from March 4, 1799, to March 3, 1805.
Aaron Ogden, from February 26, 1801, to March 3, 1803.
John Condit, from September 1, 1803, to March 3, 1809.
Aaron Kitchell, from March 4, 1805, to March 21, 1809.
John Lambert, from March 4, 1809, to March 3, 1815.
John Condit, from March 21, 1809, to March 3, 1817.
James Jefferson Wilson, from March 4, 1815, to January 26, 1821.
Mahlon Dickerson, from March 4, 1817, to March 3, 1829.
Samuel L. Southard, from January 26, 1821, to November 12, 1823.
Joseph McIlvaine, from November 12, 1823, to August 16, 1826.
Ephraim Bateman, from November 10, 1826, to January 30, 1829.
Theodore Frelinghuysen, from March 4, 1829, to March 3, 1835.
Mahlon Dickerson, from January 30, 1829, to March 3, 1833.
Samuel L. Southard, from March 4, 1833, to June 26, 1842.
Garret D. Wall, from March 4, 1835, to March 3, 1841.
Jacob W. Miller, from March 4, 1841, to March 3, 1853.
William L. Dayton, from July 2, 1842, to March 3, 1851.
Jacob W. Miller, from January 4, 1841, to March 3, 1853.
Robert F. Stockton, from March 4, 1851, to February 11, 1853.
William Wright, from March 4, 1853, to March 3, 1859.
John R. Thomson (died), from February 11, 1853, to December, 1862.
Richard S. Field (vacancy), from December 12, 1862, to January 13, 1863.
John C. Ten Eyck, from March 17, 1859, to March 3, 1865.
James W. Wall (vacancy), from January 14, 1863, to March 3, 1863.
William Wright, from March 4, 1863, to November, 1866.
F. T. Frelinghuysen, from November, 1866, to March 3, 1869.
John P. Stockton, from March 4, 1865, to March 27, 1866.
Alexander G. Cattell, from December 3, 1866, to March 3, 1871.
John P. Stockton, from March 4, 1869, to March 3, 1875.
F. T. Frelinghuysen, from March 4, 1871, to March 3, 1877.
T. F. Randolph, from March 4, 1875, to March 3, 1881.
John R. McPherson, from March 4, 1877, to March 3, 1895.
William J. Sewell, from March 4, 1881, to March 3, 1887.
Rufus Blodgett, from March 4, 1887, to March 3, 1893.
James Smith, Jr., from March 4, 1893, to March 3, 1899.
William J. Sewell, from March 4, 1895, to December 26, 1901.
John Kean, from March 4, 1899, to March 3, 1911.
John F. Dryden, from February 4, 1902, to March 3, 1907.
Frank O. Briggs, from March 4, 1907, to March 3, 1913.
James E. Martine, from March 4, 1911, to March 3, 1917.

William Hughes, from March 4, 1913, to January 30, 1918.
Joseph S. Frelinghuysen, from March 4, 1917, to ——.
David Baird, from March 7, 1918, to March 3, 1919.
Walter E. Edge, from May 19, 1919, to ——.

CONSTITUTION OF THE STATE OF NEW JERSEY

A CONSTITUTION *agreed upon by the delegates of the people of New Jersey, in convention begun at Trenton on the fourteenth day of May, and continued to the twenty-ninth day of June, in the year of our Lord one thousand eight hundred and forty-four, ratified by the people at an election held on the thirteenth day of August,* A.D. 1844, *and amended at a special election held on the seventh day of September,* A. D. 1875, *and at another special election held on the twenty-eighth day of September,* A. D. 1897.

We, the people of the State of New Jersey, grateful to Almighty God for the civil and religious liberty which He hath so long permitted us to enjoy, and looking to Him for a blessing upon our endeavors to secure and transmit the same unimpaired to succeeding generations, do ordain and establish this CONSTITUTION:

ARTICLE I

RIGHTS AND PRIVILEGES

1. All men are by nature free and independent, and have certain natural and unalienable rights, among which are those of enjoying and defending life and liberty; acquiring, possessing and protecting property, and of pursuing and obtaining safety and happiness.

2. All political power is inherent in the people. Government is instituted for the protection, security and benefit of the people, and they have the right at all times to alter or reform the same, whenever the public good may require it.

3. No person shall be deprived of the inestimable privilege of worshiping Almighty God in a manner agreeable to the dictates of his own conscience; nor, under any pretense whatever, to be compelled to attend any place of worship contrary to his faith and judgment; nor shall any person be obliged to pay tithes, taxes or other rates for building or repairing any church or churches, place or places of worship, or for the maintenance of any minister or ministry, contrary to what he believes to be right, or has deliberately and voluntarily engaged to perform.

4. There shall be no establishment of one religious sect in preference to another; no religious test shall be required as a qualification for any

office or public trust; and no person shall be denied the enjoyment of any civil right merely on account of his religious principles.

5. Every person may freely speak, write and publish his sentiments on all subjects, being responsible for the abuse of that right. No law shall be passed to restrain or abridge the liberty of speech or of the press. In all prosecutions or indictments for libel, the truth may be given in evidence to the jury; and if it shall appear to the jury that the matter charged as libelous is true, and was published with good motives and for justifiable ends, the party shall be acquitted; and the jury shall have the right to determine the law and the fact.

6. The right of the people to be secure in their persons, houses, papers and effects, against unreasonable searches and seizures, shall not be violated; and no warrant shall issue but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched and the papers and things to be seized.

7. The right of a trial by jury shall remain inviolate; but the legislature may authorize the trial of civil suits, when a matter in dispute does not exceed fifty dollars, by a jury of six men.

8. In all criminal prosecutions the accused shall have the right to a speedy and public trial by an impartial jury; to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the assistance of a counsel in his defense.

9. No person shall be held to answer for a criminal offense, unless on the presentment or indictment of a grand jury, except in cases of impeachment, or in cases cognizable by justices of the peace, or arising in the army or navy; or in the militia, when in actual service in time of war or public danger.

10. No person shall, after acquittal, be tried for the same offense. All persons shall, before conviction, be bailable by sufficient sureties, except for capital offenses, when the proof is evident or presumption great.

11. The privilege of the writ of *habeas corpus* shall not be suspended, unless in case of rebellion or invasion the public safety may require it.

12. The military shall be in strict subordination to the civil power.

13. No soldier shall, in time of peace, be quartered in any house without the consent of the owner; nor in time of war, except in a manner prescribed by law.

14. Treason against the State shall consist only in levying war against it, or in adhering to its enemies, giving them aid and comfort. No person shall be convicted of treason, unless on the testimony of two witnesses to the same overt act, or on confession in open court.

15. Excessive bail shall not be required, excessive fines shall not be imposed, and cruel and unusual punishments shall not be inflicted.

16. Private property shall not be taken for public use without just compensation; but land may be taken for public highways as heretofore, until the legislature shall direct compensation to be made.

17. No person shall be imprisoned for debt in any action, or on any judgment founded upon contract, unless in cases of fraud; nor shall any person be imprisoned for a militia fine in time of peace.

18. The people have the right freely to assemble together to consult for the common good, to make known their opinions to their representatives, and to petition for redress of grievances.

19. No county, city, borough, town, township or village shall hereafter give any money or property, or loan its money or credit, to or in aid of any individual association or corporation, or become security for or be directly or indirectly the owner of any stock or bonds of any association or corporation.

20. No donation of land or appropriation of money shall be made by the State or any municipal corporation to or for the use of any society, association or corporation whatever.

21. This enumeration of rights and privileges shall not be construed to impair or deny others retained by the people.

ARTICLE II

Right of Suffrage

1. Every male[1] citizen of the United States, of the age of twenty-one years, who shall have been a resident of this State one year, and of the country in which he claims his vote five months, next before the election, shall be entitled to vote for all officers that now are, or hereafter may be, elective by the people; *provided*, that no person in the military, naval or marine service of the United States shall be considered a resident in this State, by being stationed in any garrison, barrack, or military or naval place or station within this State; and no pauper, idiot, insane person, or person convicted of a crime which now excludes him from being a witness unless pardoned or restored by law to the right of suffrage, shall enjoy the right of an elector; *and provided further*, that in time of war no elector in the actual military service of the State, or of the United States, in the army or navy thereof, shall be deprived of his vote by reason of his absence from such election district; and the legislature shall have power to provide the manner in which, and the time and place at which, such absent electors may vote, and for the return and canvass of their votes in the election districts in which they respectively reside.

2. The legislature may pass laws to deprive persons of the right of suffrage who shall be convicted of bribery.

[1] This word is superseded by the Nineteenth Amendment to the National Constitution.

ARTICLE III

Distribution of the Powers of Government

1. The powers of the government shall be divided into three distinct departments—the legislative, executive and judicial; and no person or persons belonging to, or constituting one of these departments, shall exercise any of the powers properly belonging to either of the others, except as herein expressly provided.

ARTICLE IV

Legislative

Section I

1. The legislative power shall be vested in a senate and general assembly.

2. No person shall be a member of the senate who shall not have attained the age of thirty years, and have been a citizen and inhabitant of the State for four years, and of the county for which he shall be chosen one year, next before his election; and no person shall be a member of the general assembly who shall not have attained the age of twenty-one years, and have been a citizen and inhabitant of the State for two years, and of the county for which he shall be chosen one year next before his election; *provided*, that no person shall be eligible as a member of either house of the legislature, who shall not be entitled to the right of suffrage.

3. Members of the senate and general assembly shall be elected yearly and every year, on the first Tuesday after the first Monday in November; and the two houses shall meet separately on the second Tuesday in January next after the said day of election, at which time of meeting the legislative year shall commence; but the time of holding such election may be altered by the legislature.

Section II

1. The senate shall be composed of one senator from each county in the State, elected by the legal voters of the counties, respectively, for three years.

2. As soon as the senate shall meet after the first election to be held in pursuance of this constitution, they shall be divided as equally as may be into three classes. The seats of the senators of the first class shall be vacated at the expiration of the first year; of the second class at the expiration of the second year; and of the third class at the

expiration of the third year, so that one class may be elected every year; and if vacancies happen, by resignation or otherwise, the persons elected to supply such vacancies shall be elected for the unexpired terms only.

Section III

1. The general assembly shall be composed of members annually elected by the legal voters of the counties, respectively, who shall be apportioned among the said counties as nearly as may be according to the number of their inhabitants. The present apportionment shall continue until the next census of the United States shall have been taken, and an apportionment of members of the general assembly shall be made by the legislature at its first session after the next and every subsequent enumeration or census, and when made shall remain unaltered until another enumeration shall have been taken; *provided*, that each county shall at all times be entitled to one member; and the whole number of members shall never exceed sixty.

Section IV

1. Each house shall direct writs of election for supplying vacancies, occasioned by death, resignation, or otherwise; but if vacancies occur during the recess of the legislature, the writs may be issued by the governor, under such regulations as may be prescribed by law.

2. Each house shall be the judge of the elections, returns and qualifications of its own members, and a majority of each shall constitute a quorum to do business; but a smaller number may adjourn from day to day, and may be authorized to compel the attendance of absent members, in such manner, and under such penalties, as each house may provide.

3. Each house shall choose its own officers, determine the rules of its proceedings, punish its members for disorderly behavior, and, with the concurrence of two thirds, may expel a member.

4. Each house shall keep a journal of its proceedings, and from time to time publish the same; and the yeas and nays of the members of either house on any question shall, at the desire of one fifth of those present, be entered on the journal.

5. Neither house, during the session of the legislature, shall, without the consent of the other, adjourn for more than three days, nor to any other place than that in which the two houses shall be sitting.

6. All bills and joint resolutions shall be read three times in each house, before the final passage thereof; and no bill or joint resolution shall pass unless there be a majority of all the members of each body personally present and agreeing thereto; and the yeas and nays of the members voting on such final passage shall be entered on the journal.

7. Members of the senate and general assembly shall receive annually the sum of five hundred dollars during the time for which they shall have been elected and while they shall hold their office, and no other allowance or emolument, directly or indirectly, for any purpose whatever. The president of the senate and the speaker of the house of assembly shall, in virtue of their offices, receive an additional compensation, equal to one third of their allowance as members.

8. Members of the senate and general assembly shall, in all cases except treason, felony and breach of the peace, be privileged from arrest during their attendance at the sitting of their respective houses, and in going to and returning from the same; and for any speech or debate, in either house, they shall not be questioned in any other place.

Section V

1. No member of the senate or general assembly shall, during the time for which he was elected, be nominated or appointed by the governor, or by the legislature in joint meeting, to any civil office under the authority of this State which shall have been created, or the emoluments whereof shall have been increased, during such time.

2. If any member of the senate or general assembly shall be elected to represent this State in the senate or house of representatives of the United States, and shall accept thereof, or shall accept of any office or appointment under the government of the United States, his seat in the legislature of this State shall thereby be vacated.

3. No justice of the supreme court, nor judge of any other court, sheriff, justice of the peace nor any person or persons possessed of any office of profit under the government of this State, shall be entitled to a seat either in the senate or in the general assembly; but, on being elected and taking his seat, his office shall be considered vacant; and no person holding any office of profit under the government of the United States shall be entitled to a seat in either house.

Section VI

1. All bills for raising revenue shall originate in the house of assembly; but the senate may propose or concur with amendments, as on other bills.

2. No money shall be drawn from the treasury but for appropriations made by law.

3. The credit of the State shall not be directly or indirectly loaned in any case.

4. The legislature shall not, in any manner, create any debt or debts, liability or liabilities, of the State which shall, singly or in the aggregate with any previous debts or liabilities, at any time exceed one hundred

thousand dollars, except for purposes of war, or to repel invasion, or to suppress insurrection, unless the same shall be authorized by a law for some single object or work, to be distinctly specified therein; which law shall provide the ways and means, exclusive of loans, to pay the interest of such debt or liability as it falls due, and also to pay and discharge the principal of such debt or liability within thirty-five years from the time of the contracting thereof, and shall be irrepealable until such debt or liability, and the interest thereon, are fully paid and discharged; and no such law shall take effect until it shall, at a general election, have been submitted to the people, and have received the sanction of a majority of all the votes cast for and against it at such election; and all money to be raised by the authority of such law shall be applied only to the specific object stated therein, and to the payment of the debt thereby created. This sanction shall not be construed to refer to any money that has been, or may be, deposited with this State by the government of the United States.

Section VII

1. No divorce shall be granted by the legislature.

2. No lottery shall be authorized by the legislature or otherwise in this State, and no ticket in any lottery shall be bought or sold within this State, nor shall pool-selling, book-making or gambling of any kind be authorized or allowed within this State, nor shall any gambling device, practice or game of chance now prohibited by law be legalized, or the remedy, penalty or punishment now provided therefor be in any way diminished.

3. The legislature shall not pass any bill of attainder, *ex post facto* law, or law impairing the obligation of contracts, or depriving a party of any remedy for enforcing a contract which existed when the contract was made.

4. To avoid improper influences which may result from intermixing in one and the same act such things as have no proper relation to each other, every law shall embrace but one object, and that shall be expressed in the title. No law shall be revived or amended by reference to its title only; but the act revived, or the section or sections amended shall be inserted at length. No general law shall embrace any provision of a private, special or local character. No act shall be passed which shall provide that any existing law, or any part thereof, shall be made or deemed a part of the act, or which shall enact that any existing law, or any part thereof, shall be applicable, except by inserting it in such act.

5. The laws of this State shall begin in the following style: "Be it enacted by the Senate and General Assembly of the State of New Jersey."

6. The fund for the support of free schools, and all money, stock and other property which may hereafter be appropriated for that purpose, or received into the treasury under the provision of any law heretofore passed to augment the said fund, shall be securely invested and remain a perpetual fund; and the income thereof, except so much as it may be judged expedient to apply to an increase of the capital, shall be annually appropriated to the support of public free schools, for the equal benefit of all the people of the State; and it shall not be competent for the legislature to borrow, appropriate or use the said fund, or any part thereof, for any other purpose, under any pretense whatever. The legislature shall provide for the maintenance and support of a thorough and efficient system of free public schools for the instruction of all the children in this State between the ages of five and eighteen years.

7. No private or special law shall be passed authorizing the sale of any lands belonging in whole or in part to a minor or minors, or other persons who may at the time be under any legal disability to act for themselves.

8. Individuals or private corporations shall not be authorized to take private property for public use, without just compensation first made to the owners.

9. No private, special or local bill shall be passed unless public notice of the intention to apply therefor, and of the general object thereof, shall have been previously given. The legislature, at the next session after the adoption hereof, and from time to time thereafter, shall prescribe the time and mode of giving such notice, the evidence thereof, and how such evidence shall be preserved.

10. The legislature may vest in the circuit courts, or courts of common pleas within the several counties of this State, chancery powers, so far as relates to the foreclosure of mortgages and sale of mortgaged premises.

11. The legislature shall not pass private, local or special laws in any of the following enumerated cases; that is to say:

Laying out, opening, altering and working roads or highways.

Vacating any road, town plot, street, alley or public grounds.

Regulating the internal affairs of towns and counties; appointing local offices or commissions to regulate municipal affairs.

Selecting, drawing, summoning or empaneling grand or petit jurors.

Creating, increasing or decreasing the percentage or allowance of public officers during the term for which said officers were elected or appointed.

Changing the law of descent.

Granting to any corporation, association or individual any exclusive privilege, immunity or franchise whatever.

Granting to any corporation, association or individual the right to lay down railroad tracks.

Providing for changes of venue in civil or criminal cases.

Providing for the management and support of free public schools.

The legislature shall pass general laws providing for the cases enumerated in this paragraph, and for all other cases which, in its judgment, may be provided for by general laws. The legislature shall pass no special act conferring corporate powers, but they shall pass general laws under which corporations may be organized and corporate powers of every nature obtained, subject, nevertheless, to repeal or alteration at the will of the legislature.

12. Property shall be assessed for taxes under general laws, and by uniform rules, according to its true value.

Section VIII

1. Members of the legislature shall, before they enter on the duties of their respective offices, take and subscribe the following oath or affirmation:

"I do solemnly swear [or affirm, as the case may be], that I will support the constitution of the United States and the constitution of the State of New Jersey, and that I will faithfully discharge the duties of senator [or member of the general assembly, as the case may be], according to the best of my ability."

And members-elect of the senate or general assembly are hereby empowered to administer to each other the said oath or affirmation.

2. Every officer of the legislature shall, before he enters upon his duties, take and subscribe the following oath or affirmation: "I do solemnly promise and swear [or affirm] that I will faithfully, impartially and justly perform all the duties of the office of ——, to the best of my ability and understanding; that I will carefully preserve all records, papers, writings or property intrusted to me for safe-keeping by virtue of my office, and make such disposition of the same as may be required by law."

ARTICLE V

Executive

1. The executive power shall be vested in a governor.

2. The governor shall be elected by the legal voters of this State. The person having the highest number of votes shall be the governor; but if two or more shall be equal and highest in votes, one of them shall be chosen governor by the vote of a majority of the members of both houses in joint meeting. Contested elections for the office of governor shall be determined in such manner as the legislature shall direct by law. When a governor is to be elected by the people, such election

shall be held at the time when and at the places where the people shall respectively vote for members of the legislature.

3. The governor shall hold his office for three years, to commence on the third Tuesday of January next ensuing the election for governor by the people, and to end on the Monday preceding the third Tuesday of January, three years thereafter; and he shall be incapable of holding that office for three years next after his term of service shall have expired; and no appointment or nomination to office shall be made by the governor during the last week of his said term.

4. The governor shall be not less than thirty years of age, and shall have been for twenty years, at least, a citizen of the United States, and a resident of this State seven years next before his election, unless he shall have been absent during that time on the public business of the United States or of this State.

5. The governor shall, at stated times, receive for his services a compensation which shall be neither increased nor diminished during the period for which he shall have been elected.

6. He shall be the commander-in-chief of all the military and naval forces of the State; he shall have power to convene the legislature, or the senate alone, whenever in his opinion public necessity requires it; he shall communicate by message to the legislature at the opening of each session, and at such other times as he may deem necessary, the condition of the State, and recommend such measures as he may deem expedient; he shall take care that the laws be faithfully executed, and grant, under the great seal of the State, commissions to all such officers as shall be required to be commissioned.

7. Every bill which shall have passed both houses shall be presented to the governor; if he approve he shall sign it, but if not, he shall return it, with his objections, to the house in which it shall have originated, who shall enter the objections at large on their journal, and proceed to reconsider it; if, after such reconsideration, a majority of the whole number of that house shall agree to pass the bill, it shall be sent, together with the objections, to the other house, by which it shall likewise be reconsidered, and if approved of by a majority of the whole number of that house, it shall become a law; but in neither house shall the vote be taken on the same day on which the bill shall be returned to it; and in all such cases, the votes of both houses shall be determined by yeas and nays, and the names of the persons voting for and against the bill shall be entered on the journal of each house respectively. If any bill shall not be returned by the governor, within five days (Sunday excepted) after it shall have been presented to him, the same shall be a law in like manner as if he had signed it, unless the legislature by their adjournment prevent its return, in which case it shall not be a law. If any bill presented to the governor contain several

items of appropriations of money, he may object to one or more of such items while approving of the other portions of the bill. In such case he shall append to the bill, at the time of signing it, a statement of the items to which he objects, and the appropriation so objected to shall not take effect. If the legislature be in session he shall transmit to the house in which the bill originated, a copy of such statement, and the items objected to shall be separately reconsidered. If, on reconsideration, one or more of such items be approved by a majority of the members elected to each house, the same shall be a part of the law, notwithstanding the objections of the governor. All the provisions of this section in relation to bills not approved by the governor shall apply to cases in which he shall withhold his approval from any item or items contained in a bill appropriating money.

8. No member of congress, or person holding an office under the United States, or this State, shall exercise the office of governor; and in case the governor, or person administering the government, shall accept any office under the United States or this State, his office of governor shall thereupon be vacant. Nor shall he be elected by the legislature to any office under the government of this State or of the United States, during the term for which he shall have been elected governor.

9. The governor, or person administering the government, shall have power to suspend the collection of fines and forfeitures, and to grant reprieves, to extend until the expiration of a time not exceeding ninety days after conviction; but this power shall not extend to cases of impeachment.

10. The governor, or person administering the government, the chancellor, and the six judges of the court of errors and appeals, or a major part of them, of whom the governor, or a person administering the government, shall be one, may remit fines and forfeitures, and grant pardons, after conviction, in all cases except impeachment.

11. The governor and all other civil officers under this State shall be liable to impeachment for misdemeanor in office during their continuance in office, and for two years thereafter.

12. In case of the death, resignation or removal from office of the governor, the powers, duties and emoluments of the office shall devolve upon the president of the senate, and in case of his death, resignation or removal, then upon the speaker of the house of assembly, for the time being, until another governor shall be elected and qualified; but in such case another governor shall be chosen at the next election for members of the legislature, unless such death, resignation or removal shall occur within thirty days immediately preceding such next election, in which case a governor shall be chosen at the second succeeding election for members of the legislature. When a vacancy happens, during the recess of the legislature, in any office which is to be filled by the governor

and senate, or by the legislature in joint meeting, the governor shall fill such vacancy and the commission shall expire at the end of the next session of the legislature, unless a successor shall be sooner appointed; when a vacancy happens in the office of clerk or surrogate of any county, the governor shall fill such vacancy, and the commission shall expire when a successor is elected and qualified. No person who shall have been nominated to the senate by the governor for any office of trust or profit under the government of this State, and shall not have been confirmed before the recess of the legislature, shall be eligible for appointment to such office during the continuance of such recess.

13. In case of the impeachment of the governor, his absence from the State or inability to discharge the duties of his office, the powers, duties and emoluments of the office shall devolve upon the president of the senate; and in case of his death, resignation or removal, then upon the speaker of the house of assembly for the time being, until the governor, absent or impeached, shall return or be acquitted, or until the disqualification or inability shall cease, or until a new governor be elected and qualified.

14. In case of a vacancy in the office of governor from any other cause than those herein enumerated, or in case of the death of the governor-elect before he is qualified into office, the powers, duties and emoluments of the office shall devolve upon the president of the senate or speaker of the house of assembly, as above provided for, until a new governor be elected and qualified.

ARTICLE VI

Judiciary

Section I

1. The judicial power shall be vested in a court of errors and appeals in the last resort in all causes as heretofore; a court for the trial of impeachments; a court of chancery; a prerogative court; a supreme court; circuit courts, and such inferior courts as now exist, and as may be hereafter ordained and established by law; which inferior courts the legislature may alter or abolish, as the public good shall require.

Section II

1. The court of errors and appeals shall consist of the chancellor, the justices of the supreme court, and six judges, or a major part of them; which judges are to be appointed for six years.

2. Immediately after the court shall first assemble, the six judges shall arrange themselves in such manner that the seat of one of them shall be

vacated every year, in order that thereafter one judge may be annually appointed.

3. Such of the six judges as shall attend the court shall receive, respectively, a *per diem* compensation, to be provided by law.

4. The secretary of state shall be the clerk of this court.

5. When an appeal from an order or decree shall be heard, the chancellor shall inform the court, in writing, of the reasons for his order or decree; but he shall not sit as a member, or have a voice in the hearing or final sentence.

6. When a writ of error shall be brought, no justice who has given a judicial opinion in the cause in favor of or against any error complained of, shall sit as a member, or have a voice on the hearing, or for its affirmance or reversal; but the reasons for such opinion shall be assigned to the court in writing.

Section III

1. The house of assembly shall have the sole power of impeaching, by a vote of a majority of all the members; and all impeachments shall be tried by the senate; the members, when sitting for that purpose, to be on oath or affirmation "truly and impartially to try and determine the charge in question according to evidence;" and no person shall be convicted without the concurrence of two thirds of all the members of the senate.

2. Any judicial officer impeached shall be suspended from exercising his office until his acquittal.

3. Judgment in cases of impeachment shall not extend farther than to removal from office, and to disqualification to hold and enjoy any office of honor, profit or trust under this State; but the party convicted shall, nevertheless, be liable to indictment, trial and punishment according to law.

4. The secretary of state shall be the clerk of this court.

Section IV

1. The court of chancery shall consist of a chancellor.

2. The chancellor shall be the ordinary or surrogate general, and judge of the prerogative court.

3. All persons aggrieved by any order, sentence or decree of the orphans' court, may appeal from the same, or from any part thereof, to the prerogative court; but such order, sentence or decree shall not be removed into the supreme court, or circuit court if the subject-matter thereof be within the jurisdiction of the orphans' court.

4. The secretary of state shall be the register of the prerogative court, and shall perform the duties required of him by law in that respect.

Section V

1. The supreme court shall consist of a chief justice and four associate justices. The number of associate justices may be increased or decreased by law, but shall never be less than two.

2. The circuit courts shall be held in every county of this State, by one or more of the justices of the supreme court, or a judge appointed for that purpose, and shall, in all cases within the county except in those of a criminal nature, have common law jurisdiction, concurrent with the supreme court; and any final judgment of a circuit court may be docketed in the supreme court, and shall operate as a judgment obtained in the supreme court from the time of such docketing.

3. Final judgments in any circuit court may be brought by writ of error into the supreme court, or directly into the court of errors and appeals.

Section VI

1. There shall be no more than five judges of the inferior court of common pleas in each of the counties in this State, after the terms of the judges of said court now in office shall terminate. One judge for each county shall be appointed every year, and no more, except to fill vacancies, which shall be for the unexpired term only.

2. The commissions for the first appointments of judges of said court shall bear date and take effect on the first day of April next; and all subsequent commissions for judges of said court shall bear date and take effect on the first day of April in every successive year, except commissions to fill vacancies, which shall bear date and take effect when issued.

Section VII

1. There may be elected under this constitution two, and not more than five, justices of the peace in each of the townships of the several counties of this State, and in each of the wards, in cities that may vote in wards. When a township or ward contains two thousand inhabitants or less, it may have two justices; when it contains more than two thousand inhabitants, and not more than four thousand, it may have four justices; and when it contains more than four thousand inhabitants, it may have five justices; *provided*, that whenever any township not voting in wards contains more than seven thousand inhabitants, such township may have an additional justice for each additional three thousand inhabitants above four thousand.

2. The population of the townships in the several counties of the State and of the several wards shall be ascertained by the last preceding census of the United States, until the legislature shall provide, by law, some other mode of ascertaining it.

ARTICLE VII

Appointing Power and Tenure of Office

Section I

Militia Officers

1. The legislature shall provide by law for enrolling, organizing and arming the militia.

2. Captains, subalterns and non-commissioned officers shall be elected by the members of their respective companies.

3. Field officers of regiments, independent battalions and squadrons shall be elected by the commissioned officers of their respective regiments, battalions or squadrons.

4. Brigadier-generals shall be elected by the field officers of their respective brigades.

5. Major-generals, the adjutant-general and quartermaster-general shall be nominated by the governor, and appointed by him, with the advice and consent of the senate.

6. The legislature shall provide, by law, the time and manner of electing militia officers, and of certifying their elections to the governor, who shall grant their commissions, and determine their rank, when not determined by law; and no commissioned officer shall be removed from office but by the sentence of a court-martial, pursuant to law.

7. In case the electors of subalterns, captains or field officers shall refuse or neglect to make such elections, the governor shall have power to appoint such officers, and to fill all vacancies caused by such refusal or neglect.

8. Brigade inspectors shall be chosen by the field officers of their respective brigades.

9. The governor shall appoint all militia officers whose appointment is not otherwise provided for in this constitution.

10. Major-generals, brigadier-generals and commanding officers of regiments, independent battalions and squadrons shall appoint the staff officers of their divisions, brigades, regiments, independent battalions and squadrons, respectively.

Section II

Civil Officers

1. Justices of the supreme court, chancellor, judges of the court of errors and appeals and judges of the inferior court of common pleas shall be nominated by the governor, and appointed by him, with the advice and consent of the senate.

The justices of the supreme court and chancellor shall hold their offices for the term of seven years; shall, at stated times, receive for their services a compensation which shall not be diminished during the term of their appointments; and they shall hold no other office under the government of this State or of the United States.

2. Judges of the courts of common pleas shall be appointed by the senate and general assembly, in joint meeting.

They shall hold their offices for five years; but when appointed to fill vacancies, they shall hold for the unexpired term only.

3. The state treasurer and comptroller shall be appointed by the senate and general assembly, in joint meeting.

They shall hold their offices for three years, and until their successors shall be qualified into office.

4. The attorney-general, prosecutors of the pleas, clerk of the supreme court, clerk of the court of chancery, secretary of state and the keeper of the state prison shall be nominated by the governor, and appointed by him, with the advice and consent of the senate.

They shall hold their offices for five years.

5. The law reporter shall be appointed by the justices of the supreme court, or a majority of them; and the chancery reporter shall be appointed by the chancellor.

They shall hold their offices for five years.

6. Clerks and surrogates of counties shall be elected by the people of their respective counties, at the annual elections for members of the general assembly.

They shall hold their offices for five years.

7. Sheriffs and coroners shall be elected by the people of their respective counties, at the elections for members of the general assembly, and they shall hold their offices for three years, after which three years must elapse before they can be again capable of serving. Sheriffs shall annually renew their bonds.

8. Justices of the peace shall be elected by ballot at the annual meetings of the townships in the several counties of the State, and of the wards in cities that may vote in wards, in such manner and under such regulations as may be hereafter provided by law.

They shall be commissioned for the county, and their commissions shall bear date and take effect on the first day of May next after their election.

They shall hold their offices for five years; but when elected to fill vacancies, they shall hold for the unexpired term only; *provided*, that the commission of any justice of the peace shall become vacant upon his ceasing to reside in the township in which he was elected.

The first election for justices of the peace shall take place at the next annual town-meetings of the townships in the several counties of the State, and of the wards in cities that may vote in wards.

9. All other officers, whose appointments are not otherwise provided for by law, shall be nominated by the governor, and appointed by him, with the advice and consent of the senate; and shall hold their offices for the time prescribed by law.

10. All civil officers elected or appointed pursuant to the provisions of this constitution, shall be commissioned by the governor.

11. The term of office of all officers elected or appointed, pursuant to the provisions of this constitution, except when herein otherwise directed, shall commence on the day of the date of their respective commissions; but no commission for any office shall bear date prior to the expiration of the term of the incumbent of said office.

ARTICLE VIII

General Provisions

1. The secretary of state shall be *ex officio* an auditor of the accounts of the treasurer, and as such, it shall be his duty to assist the legislature in the annual examination and settlement of said accounts, until otherwise provided by law.

2. The seal of the State shall be kept by the governor, or person administering the government, and used by him officially, and shall be called the great seal of the State of New Jersey.

3. All grants and commissions shall be in the name and by the authority of the State of New Jersey, sealed with the great seal, signed by the governor, or person administering the government, and countersigned by the secretary of state, and it shall run thus: "The State of New Jersey, to ——, greeting." All writs shall be in the name of the State; and all indictments shall conclude in the following manner, viz., "against the peace of this State, the government and dignity of the same."

4. This constitution shall take effect and go into operation on the second day of September, in the year of our Lord one thousand eight hundred and forty-four.

ARTICLE IX

Amendments

Any specific amendment or amendments to the constitution may be proposed in the senate or general assembly, and if the same shall be agreed to by a majority of the members elected to each of the two houses, such proposed amendment or amendments shall be entered on their journals, with the yeas and nays taken thereon, and referred to the legislature then next to be chosen, and shall be published for three months previous to making such choice, in at least one newspaper of

each county, if any be published therein; and if in the legislature next chosen as aforesaid, such proposed amendment or amendments, or any of them, shall be agreed to by a majority of all the members elected to each house, then it shall be the duty of the legislature to submit such proposed amendment or amendments, or such of them as may have been agreed to as aforesaid by the two legislatures, to the people, in such manner and at such time, at least four months after the adjournment of the legislature, as the legislature shall prescribe; and if the people at a special election to be held for that purpose only, shall approve and ratify such amendment or amendments or any of them, by a majority of the electors qualified to vote for members of the legislature voting thereon, such amendment or amendments, so approved and ratified shall become part of the constitution; *provided*, that if more than one amendment be submitted, they shall be submitted in such manner and form that the people may vote for or against each amendment separately and distinctly; but no amendment or amendments shall be submitted to the people by the legislature oftener than once in five years.

ARTICLE X

Schedule

That no inconvenience may arise from the change in the constitution of this State, and in order to carry the same into complete operation, it is hereby declared and ordained, that—

1. The common law and the statute laws now in force, not repugnant to this constitution, shall remain in force until they expire by their own limitation, or be altered or repealed by the legislature; and all writs, actions, causes of action, prosecutions, contracts, claims and rights of individuals and of bodies corporate, and of the State, and all charters of incorporation, shall continue, and all indictments which shall have been found, or which may hereafter be found, for any crime or offense committed before the adoption of this constitution, may be proceeded upon as if no change had taken place. The several courts of law and equity, except as herein otherwise provided, shall continue with the like powers and jurisdiction as if this constitution had not been adopted.

2. All officers now filling any office or appointment shall continue in the exercise of the duties thereof, according to their respective commissions or appointments, unless by this constitution it is otherwise directed.

3. The present governor, chancellor and ordinary or surrogate-general and treasurer shall continue in office until successors elected or appointed under this constitution shall be sworn or affirmed into office.

4. In case of the death, resignation or disability of the present governor, the person who may be vice-president of council at the time of the

adoption of this constitution shall continue in office and administer the government until a governor shall have been elected and sworn or affirmed into office under this constitution.

5. The present governor, or in case of his death or inability to act, the vice-president of council, together with the present members of the legislative council and secretary of state, shall constitute a board of state canvassers, in the manner now provided by law, for the purpose of ascertaining and declaring the result of the next ensuing election for governor, members of the house of representatives, and electors of president and vice-president.

6. The returns of the votes for governor, at the said next ensuing election, shall be transmitted to the secretary of state, the votes counted, and the election declared in the manner now provided by law in the case of the election of electors of president and vice-president.

7. The election of clerks and surrogates, in those counties where the term of office of the present incumbent shall expire previous to the general election of eighteen hundred and forty-five, shall be held at the general election next ensuing the adoption of this constitution; the result of which election shall be ascertained in the manner now provided by law for the election of sheriffs.

8. The elections for the year eighteen hundred and forty-four shall take place as now provided by law.

9. It shall be the duty of the governor to fill all vacancies in office happening between the adoption of this constitution and the first session of the senate, and not otherwise provided for, and the commissions shall expire at the end of the first session of the senate, or when successors shall be elected or appointed and qualified.

10. The restriction of the pay of members of the legislature after forty days from the commencement of the session, shall not be applied to the first legislature convened under this constitution.

11. Clerks of counties shall be clerks of the inferior courts of common pleas and quarter sessions of the several counties, and perform the duties, and be subject to the regulations now required of them by law until otherwise ordained by the legislature.

12. The legislature shall pass all laws necessary to carry into effect the provisions of this constitution.

INDEX

Absecon, 31
Agricultural College, State, 86, 136
Agricultural Experiment Station, 137
Agriculture, 31–42; soils, 31, 33; market gardening, 33, 35–38; fruits, 39–41; cranberry culture, 41, 42
Algonquins, Lenni-Lenape, or Delawares, belonged to, 91
Allenhurst, 82
American Whig Society, 136
Animals, wild, 29
Annapolis Convention, 117, 119
Appalachian Highlands, divided by Appalachian Valley, 9; northwestern section, or Kittatinny Mountain range, 9, 10; southwestern section, or Highlands, 10–12; orchard fruits grown in, 39; building stones in, 43
Appalachian Mountains, barrier of protection for colonists, 4
Appalachian Valley, divides Appalachian Highlands, 9; Kittatinny Valley, northward extension of, 10
Area of New Jersey, 7, 8
Arlington, 72
Artesian wells, in Coastal Plain, 24
Arthur Kill, 68, 75
Articles of Confederation, 115; became law in 1781, 116; proposed revision of, 117
Asbury Park, 82
Asparagus, New Jersey's rank, 33
Assanpink Creek, Washington holds bridge at, 109; celebration in Washington's honor at, 120
Atlantic City, 81, 144
Atlantic Coastal Plain. *See* Coastal Plain
Atlantic Drainage Basin, rivers of Coastal Plain belong to, 18
Atlantic Highlands, State Ocean Highway from Cape May to, 65; highest elevation on coast of New Jersey, 82; Henry Hudson's landing place, 93

Bainbridge, William, 127, 128
Barnegat, 82
Barnegat Bay, inland waterway from, to Cold Spring Inlet, 61
"Barracks" at Trenton, 83
Battle of Monmouth Court House, 86, 112, 113; Mollie Pitcher and, 113
Battle of Princeton, 84, 110
Battle of Trenton, 107–109
Bayonne, 20; oil refineries at, 53, 77
Belcher, Jonathan, 101, 102
Belleville, 73
Belmar, 82
Belvidere, southern edge of ice-sheet rested on line from Morristown to, 16; near water power, 85
Bergen, founded in 1660, 94; part of Jersey City, 94; first chartered settlement, 94; first school in state at, 99, 133
Berkeley, Lord, purchases what is now New Jersey, 95; sells to Quakers, 95
Berries, state ranks first in growing of, 33; varieties, 40; cranberries, 41, 42
Beverly, important center for apple and peach growing, 39, 40; industries of, 80
Billingsport, state militia stationed at, in War of 1812, 127
Birds. game, 29
Bivalve, 31
Blair's Academy, 85
Blairstown, 39, 85
Bloomfield, 72, 73
Blue Mountain range, 9
Bonaparte, Joseph, 128
Boonton, 86
Bordentown, proposed inland waterway from Raritan Bay to, 62; industries of, 80; *John Bull*, English locomotive, first used at, in 1831, 124; home of Joseph Bonaparte, 128; commission form of government, 144
Boundaries, land and water, 6, 7
Boundbrook, 86, 87; Revolutionary skirmish at, 111
Bowlders, left by ice-sheet, 16
Boyden, Seth, inventor, 128, 129
Bradley Beach, 82
Brainerd, David, 100
Bridgeton, important center for apple and peach growing, 39; glass factories at, 45, 81
Browns Mills, winter resort, 80
Budd Lake, 12
Building stones, 43
Burlington, chief products of, 80; early Swedish settlements near, 94; established as town, 96; record of school at, in 1683, 133
Burr, Aaron, 135
Burr, Reverend Aaron, 134

Cabot, John and Sebastian, 94
Caldwell, 73, 74
Camden, port of importance, 21; largest shipyard in the world at, 52; phonographs and records manufactured at,

60; center of thickly populated section, 67; founded in 1680 as Cooper's Ferry, 79; industries, 79, 80; early Dutch settlement near, 94; city normal school at, 134
Camp Dix, 80, 137, 138
Camp McClellan, New Jersey National Guard mobilized at, in World War, 138
Camping grounds, in state forests, 28
Canal, from Barnegat Bay to Manasquan River, 61; Morris, 61, 71, 85, 124; Delaware and Raritan, 61, 125; proposed sea-level, 62
Canning factories, 38, 80
Cape May (city), State Ocean Highway, from Atlantic Highlands to, 65; popular resort, 81; established as town, 96
Cape May Court House, 81
Carteret, 75
Carteret, Sir George, purchases what is now New Jersey, 95; heirs of, claim province, 96
Carteret, Philip, governor of province of New Jersey, 95, 97
Cattle, dairy, 34
Cedarville, 41
Cement, manufacture of, 44; Portland, 85
Cement rock, 12
Centenary Collegiate Institute, 85
Chamber of Commerce indorses plan to rid state of mosquitoes, 50
Charles II gives land taken from Holland to James, Duke of York, 95
Chrome, 75
Civil War, 131–132
Clams, gathering of, important industry, 30, 31
Clark, Abraham, signer of the Declaration of Independence, 106; delegate to Annapolis Convention, 117; delegate to Constitutional Convention, 118
Clay, important in pottery industry, 15, 46, 47; beds of, 45, 46
Clayton, 80
Clermont, Fulton's, 122
Cliffside, 77
Clifton, 78
Climate, 25
Clinton, Sir Henry, British general, 112, 113
Coal fields of Pennsylvania, 6, 47, 48
Coastal Plain, natural region of New Jersey, 8, 13–15; watershed of, 18; rivers of, 18, 22; water supply in, 24; trees of, 27; state forests in, 28; dairying in, 35; market-gardening belt in eastern part of, 37, 38; apples and peaches in, 39; berries and grapes grown in, 40; potatoes in, 41; sands of, 44, 45; greensand marl in, 47
Cold Spring Inlet, inland waterway from, to Barnegat Bay, 61
Collingswood, 80, 134
Colonial industries, 121, 122
Colonial life, 98–101
Commercial development due to location, 4, 60
Concessions, the, privileges granted colony of New Jersey embodied in, 95
Constitution, state, adopted in 1776, 125; amended in 1844 and in 1875, 126; text of, 158–176
Constitution, United States, 117–119
Constitution, the, 128
Constitutional Convention, 117–119
Continental Congress, New Jersey members attend First, in 1774, 103; message from New Jersey colonists sent to Second, in 1775, 104; New Jersey and, 116, 117, 119
Continental Shelf, 29
Convention, state, amends constitution in 1844, 125, 126
Cooper Creek, 79
Cooper's Ferry, 79
Copper smelting and refining, 50; at Newark, 72; at Perth Amboy, 75
Cornwallis, British general, 106–109, 112–113
Counties, location of, 68; map showing, 69; statistics, 90; thirteen original, 120; formation of, 153
County, Atlantic, 15, 30, 40, 41; Bergen, 24, 36, 67; Burlington, 15, 27, 30, 35, 40, 41, 67, 120; Camden, 40; Cape May, 30, 93; Cumberland, 30, 35, 40; Essex, 24, 36, 67; Hudson, 24, 67, 93, 94; Mercer, 36, 45; Middlesex, 24, 36, 45, 67; Monmouth, 27, 30, 35, 38, 40, 67, 115; Morris, 42, 122; Ocean, 15, 27, 30, 41, 67; Passaic, 24, 42, 67; Salem, 35, 37, 96; Sussex, 42; Union, 24, 36, 67; Warren, 42
Covenanters, Scotch, 97
Cranberries, where grown in state, 15, 41; one third of United States crop grown in New Jersey, 33; how bogs are prepared, 41, 42
Cranbury, 39
Cranford, 74
Crops, New Jersey unexcelled in variety and abundance of, 31; cranberries, 15, 33, 41, 42; corn, hay, oats, 34, 35; vegetables, 35–38; orchard fruits and berries, 39–41
Culver's Gap, 9; Frontispiece
Cushetunk Mountain, a trap ridge, 12

Dairying, northern part of state adapted to, 33, 34; large areas in Coastal Plain, 35; future prospects for, 35
Dayton, Jonathan, delegate to Constitutional Convention, 118
Declaration of Independence, signers of, in New Jersey, 106
De Hirsch Agricultural School for Jewish Boys, 81
Delaware Bay, important commercial waterway, 6, 60

Delawares. *See* Lenni-Lenape
Delaware River, water boundary of New Jersey, 6; cuts way through Kittatinny Mountain Range, 9; navigable as far as Trenton, 20; falls of, at Trenton, 22; shad in, 29, 30; important waterway, 60; mouth discovered by Captain May, 93; Washington crosses the, 107, 108
Delaware River Basin, rivers of Coastal Plain belong to, 18
Delaware Water Gap, 9
Denmark, emigrants from, 97
Dickinson, Reverend Jonathan, 134
Dividing Creek, 41
Dix, Major General John Adams, 138
Docks along water front, 20, 60
Douglass House, Trenton, 109
Dover, 42, 86
Drainage basins, 18, 19
Dunnfield, 64
Dutch East India Company sends Henry Hudson on exploring expedition, 92
Dutch Reformed Church, 97, 136
Dutch West India Company, sends Captain Cornelius May on exploring expedition, 93; officer of, founded settlement at Paulus Hook, 94
Dye industries, at Paterson, 77; at Lodi, 78

East Newark, 72
East Orange, 72, 73
Edgewater, 77
Edison, Thomas Alva, home at West Orange, 73; inventions of, 132
Education, in colonial days, 99, 100, 133; compulsory, 133, 134; institutions for higher, 134–137; board of, 145; county superintendent of schools, 147; commissioner of, 149; state board of, 149
Edwards, Jonathan, preacher, 100
Egg Harbor City, 81
Election system, 150, 151
Electric power transmitted, 22
Electric railways, 64, 65
Elizabeth, 74; home of Governor Belcher, 102; shoes made in, in 1676, 121; paper manufacture in, in 1728, 121; early school in, 133
Elizabethport, 74
Elizabethtown, 95, 134
England, claims North America, 94; New Netherlands taken by, in 1664, 95; colonizing by, 95, 96; New Jersey's attitude toward, in colonial days, 103; taxation by, 103
Englewood, 77
Exploration, Dutch, 92, 93; Swedish, 94

Fairview, 77
Federalists, 120, 121
Finderne, 87
Firewardens, 27
Fish, along shore, 29; hatcheries at Hackettstown, 29; in inland waters, 29; shad, 29, 30; shell, 30, 31
Fitch, John, first inventor of steamboat, 122
Fleming, Captain, 110
Flemington, 85
Florence, 80
Flying Machine, stage from Jersey City to Philadelphia, 99
Forest Commission, State, organized in 1905, 26; conservation work of, 27
Forest Reserve, State, 28, 29
Forestry and Parks, Division of, woodland controlled by, 28
Forests, on Kittatinny Mountain, 10; "The Pines," 15, 27; percentage of wooded area, 26; conservation of, 27; varieties of trees, 27, 28; state, 28
Fort Lee, 77
Fort Mifflin, 111
Fort Nassau, early settlement at, 94
Fort Washington, 106
France helps America in Revolutionary War, 112, 114
Franklin, 42, 86
Franklin, Benjamin, and Articles of Confederation, 116
Franklin, Governor William, 104, 136
Freehold, 86, 133
Frelinghuysen, Major General Frederick, in Revolutionary War, 97
Frelinghuysen, General John, in War of 1812, 97
Frelinghuysen, Theodore, Chancellor of University of New York, 97
Frelinghuysen, Reverend Theodorus Jacobus, Dutch settler, 97
Freneau, Philip, 135, 136
Friends. *See* Quakers
Fruits, orchard, where grown in state, 33, 39, 40; berries, 39, 40; grapes, 40
Fulton, Robert, 122

Garfield, 78
Garwood, 74
Glacial drift, rock material left by retreating ice-sheet, 16
Glacier. *See* Ice-sheet
Glass factories, 45
Glassboro, 39, 45, 80
Glen Ridge, 73
Gloucester City, 80
Government, colonial, 95, 96; local or municipal, 141–145; county, 146–148; state, 148–150
Governors, chronological list of, 153–156
Governors, royal: Jonathan Belcher, 101, 102; William Franklin, 104
Granite, used for buildings, 43
Grapes, principal producing areas, 40
Gravel deposited by ice-sheet, 16
Gravels, used in road building, 15
"Great Awakening," 100
Green Lake, 12
Greene, General, 107, 112, 113
Greenwich, 31, 105
Greenwood Lake, 12

Greyhound, brought tea from England, 105
Guttenburg, 77

Hackensack, 78
Hackensack River, 19; water supply for cities, 24
Hackettstown, state fish hatcheries at, 29; important center for apple-growing, 39; Centenary Collegiate Institute at, 85
Haddonfield, 80, 144
Half Moon, Henry Hudson's ship, 92
Hamilton, Alexander, at Annapolis Convention, 117; at the Constitutional Convention, 118; Paterson founded under patronage of, 121; attacked by Philip Freneau, 136
Hammonton, 39, 81
Harrison, 63, 72
Hart, John, signer of Declaration of Independence, 106
Hasbrouck Heights, 78
Haslet, Colonel, Revolutionary officer, 110
Hazlewood, Commodore, 112
Health resorts, 67, 81
Hessians, 107
High Bridge, 85
High Point, 9
Highlands of New Jersey, southeastern section of Appalachian Highlands, 10–12; minerals of, 12; lakes of, 12, 17; water supply in, 23; where iron ore from, is smelted, 42; cement industry in, 44
Hightstown, Peddie Institute at, 86
Highways. *See* Roads
Hoboken, great commercial city, 20; railroad terminal, 63; most densely populated city in state, 76; first locomotive to transport passengers on railroad track built at, in 1825, 124; industrial school at, 134; Stevens Institute of Technology at, 137
Holland, Henry Hudson and Cornelius May claimed territory for, 92, 93; commercial rivalry with other countries in early days, 93; Dutch settlements, 94, 96, 97
Hopatcong Lake, 12
Hopewell, 40, 85
Hopkinson, Francis, signer of Declaration of Independence, 106
Houston, William Churchill, delegate to Annapolis Convention, 117; delegate to Constitutional Convention, 118
Howe, Elias, inventor of sewing machine, first wound silk upon spools, 55
Howe, General, British officer, 111
Howell, Richard, 121
Hudson, Henry, explored and claimed territory for Holland, 92, 93
Hudson River, 20; shad in, 29, 30; important commercial waterway, 60; explored by Henry Hudson, 92
Huguenots, French, 97

Ice-sheet, continental, affected New Jersey in northern part, 16; responsible for lakes and waterfalls, 17, 18; soils enriched by, 18
Immigrants supply labor, 48, 49
Indian trails used by early settlers, 99
Indians, the Lenni-Lenape, or Delawares, 91, 92; reservations for, 92; first reservation for, in Burlington County, 120
Industries, 26–66; of colonial days, 121–122; development of, 122, 130, 131. *See* Agriculture, Fish, Manufactures
Inventors, New Jersey: Seth Boyden, 128, 129; Thomas A. Edison, 73, 132; Edwin A. Stevens, 137; John Stevens, 122, 137; Robert L. Stevens, 122, 137; Alfred Vail, 130; Stephen Vail, 129, 130
Iron, mining and smelting of, 42
Irrigation, overhead system of, 81
Irvington, 73, 74

James, Duke of York, land taken from Holland given to, 95
Jamesburg, 86
Java, British man-of-war, 128
Jersey City, commercial city, 20; oil refineries at, 53; railroad terminal, 63; second city in New Jersey in size, population, and value of manufactures, 75, 76; Bergen and Paulus Hook part of, 94; city normal school at, 134; commission form of government, 144
Jersey, East and West, 95
John Bull, English locomotive first used at Bordentown, in 1831, 124
Judicial system, 151, 152

Kearny, 72
Kearny, General Philip, in Civil War, 131
Kearny, General Stephen, in Mexican War, 130
Keyport, 31, 86
Kill van Kull, 71, 75, 77
Kittatinny Mountain range, northwestern section of Appalachian Highlands, 9, 10; state forests in, 28
Kittatinny Valley, extension of Appalachian Valley, 10

Labor supply for industry, 48, 49
Lafayette, General, 114
Lakes of northern New Jersey result of ice-sheet visit, 12, 16, 17
Lambertville, 84, 85
Land reclamation for industrial purposes, 49, 50
Lawrence, James, 128
Lawrence Preparatory School, 85
Lawrenceville, Lawrence Preparatory School at, 85; in the Revolution, 108
Lebanon, 40
Lee, General Charles, 112
Lee, Major Harry, Revolutionary officer, 114

Lee, Henry, 135
Lenni-Lenape (or Delawares), tribe of Indians found by early settlers, 91, 92
Lewis, Morgan, 135
Lightning Division (78th) in World War, 138
Limestone, used for buildings, 43; for cement, 44
Lincoln, Abraham, New Jersey responded to call of, in 1861, 131
Little Egg Harbor, 95
Livingston, William, delegate to Constitutional Convention, 118; first governor of state, 121, 126, 127
Location, advantages of, 3, 4, 8, 20, 47
Lodi, dye industries at, 78
Long Branch, 82, 144
Lumber, production and importation, 26
Lumbering, 28

Macopin, Lake, 12
Madison, 86
Madison, James, 135
Maine, battleship, 132
Manasquan, 82
Manasquan River, 61
Manufactures, from mineral products (cement, glass, pottery, fertilizer), 44–47; factors in development of, 47–49; rank in value of, 50; chief, 50–60; of cities, 68–87
Marble, 43
Market-gardening, in all parts of state, 33; chief districts near large cities, 35–38
Marl, productive lands, 15; greensand, 47
Maurice River, 18, 31
Maurice River (town), 31
Mawhood, Colonel, British officer, 110
Maxwell's brigade, 115
McCauly, Mary, "Mollie Pitcher," 113
McLane, Captain Allen, 114
McRae, Major General James H., 138
May, Captain Cornelius, explored and claimed territory for Holland, 93
Mercer, General Hugh, 110
Merchantville, 80
Metuchen, 75
Mexican War, 130
Middlebrook, 111
Middletown, 39
Milk, 33, 34
Millville, 45, 81, 144
Minerals, of Highlands region, 12; trap rock, 12, 44; iron and zinc, 42, 43; building stones, 43; sands of Coastal Plain, 44, 45; clay, 45, 46; potash, 46, 47
"Mollie Pitcher," Mary McCauly, 113
Money, colonial, 101; paper, 116, 130
Monitor and *Merrimac*, 50
Montclair, 72, 73; normal school at, 134
Moorestown, 39, 40, 80
Moraine, terminal, formed by line of glacial drift, 16; Fig. 17
Morristown, southern edge of ice-sheet rested on line from Belvidere to, 16; General Washington's headquarters at, 86, 105, 110, 111, 114
Morse, Samuel F. B., 130
Morton, Henry, 137
Morton, Major General Charles, in World War, 138
Mosquitoes, efforts to rid salt marsh of, 49, 50; Fig. 30
Mt. Holly, 80, 107
Mt. Pleasant, 136
Mt. Pleasant Hills, 13
Mullica River, tidal, 18
Musconetcong River, 19

Nassau Hall, 102, 135
Natural regions of New Jersey, 8
Navesink Highlands, in Coastal Plain, 13
Navesink River, tidal, 18
Neil, Captain Daniel, 110
New Amsterdam, English fleet at, 94
New Brunswick, Raritan River navigable to, 21; industries, 86; Rutgers College at, 86; meeting of protest against taxation held in 1774 at, 103; in the Revolution, 109, 110; summer school at, 134
New Jersey National Guard, drill ground at Seagirt, 82; mobilized, 138
New Netherlands surrendered to English, 95
New York Bay, 6, 20, 47; important waterway, 60; explored by Henry Hudson, 92
New York City, world market, 4; nearness to, an advantage to New Jersey, 4–6, 33; receives immigrants who settle in New Jersey, 48; Metropolitan District of, 68, 70–78
New York State, New Jersey's quarrel with, in colonial days, 116
Newark, Passaic River navigable to, 21; largest city, 68; location and industries, 68–72; settled by Puritans, 97; meeting of protest against taxation held in 1774 at, 103; first tannery at, in 1698, 121; Seth Boyden and, 129; early school established in, 133; College of New Jersey (Princeton University) once located at, 134; normal school at, 134; industrial school at, 134; commission form of government, 144
Newbrie, Mark, coins minted by, 101
Newport, 41
Newton, 39, 86, 96, 134
North Bergen, 77
North Plainfield, 86
Nutley, 72, 73

Ocean City, 81, 134, 144
Ocean Grove, 82
Ocean resorts, 67, 81; Atlantic City one of the most famous in the world, 81; Long Branch oldest in state, 82
Ogdensburg, 42, 86
Oil refining. *See* Petroleum

Orange, 72, 73
Orange Mountains, 73
Oxford, 42
Oysters, important industry, 30, 31

Palisades, trap ridges, 12; Interstate Park, 29; towns on, 77
Palmyra, 80
Panic in 1817 and in 1837, 130
Paper, manufacture of, at Elizabeth, in 1728, 121
Parker, Joel, Civil War governor, 132
Passaic, 21, 77, 78, 144
Passaic River, course altered by ice-sheet, 17; falls of, 18, 22; drainage basin, 18; winding courses, 19; tidal, 19; navigable to Newark and Passaic, 21; reservoir at headwaters of, 24
Paterson, falls at, 18, 22; silk manufacture, 55, 56; leading silk-manufacturing city, 56, 77; founded in 1791, 121; factory for calico printing, in 1794, 122; city normal school at, 134; commission form of government, 144
Paterson, William, delegate to Constitutional Convention, 118; second governor of state, 121
Patriots of New Jersey, 104, 115
Paulsboro, 80
Paulus Hook, 94, 114
Pauw, Michael, purchased district from Indians in 1630, 94
Pavonia, district purchased by Michael Pauw, 94
Peaches, 39, 40
Peddie Institute, 86
Pemberton, 80
Penn, William, secures title to West Jersey in 1676, 95; purchases East Jersey in 1682, 95; towns in Salem County named for, 96
Pennington, 85
Penns Grove, 81
Pens, steel, manufacture of, 58, 60
Pequanac River, reservoir at headwaters of, supplies Newark, 24
Pershing, General John L., 139
Perth Amboy, southern edge of ice-sheet rested on line from Belvidere and Morristown to, 16; rich clay beds at, 45; great center for brick tile and terra cotta, 46; industrial city, 75; in the Revolution, 111; early school established in, 133
Petroleum, rank in refining, 50; crude, brought by pipe lines and tank steamers, 53; refining of, 53–55; products and their uses, 53, 54; how distributed, 54, 55
Philadelphia, world market, 4; nearness to, an advantage to New Jersey, 4–6, 33; receives immigrants who settle in New Jersey, 48; Metropolitan District of, 7, 68, 78–81
Phillipsburg, 44, 85
Phœnix, first steamboat to navigate ocean, 122, 137
Phonographs and records, 60, 74
Piedmont Belt, natural region of New Jersey, 8, 12; orchard fruits in, 39; sandstone of, 43; trap rock of, 44
Pine, growth of, on sands, 15
"Pine robbers," 115
"Pines, The," 15, 27
Pipe lines, for water, 24; for crude petroleum, 53
Piscataway, 97
Plainfield, 86
Pleasantville, 31, 82
Point Pleasant, 13, 82
Population of New Jersey, density, 3; in 1920, 67; incorporated places of 2000 or over, 88–90; counties, 90; in 1790, 121
Potash, 46, 47
Potatoes, New Jersey ranks first, 40; chief producing regions, 41
Potatoes, sweet, 33, 41
Pottery, clays important in making of, 15, 46; rank of Trenton in making, 46, 83; value of Trenton's output, 46
Power, water, 21–23, 84; electric, 21, 22, 48; steam, 48
Princeton, 84; in Revolutionary War, 107–110; seat of Princeton University, 134, 135
Princeton Theological Seminary, 84
Princeton University, 84, 134, 135; charter granted, 102, 134; early presidents, 134, 135; Nassau Hall, 102, 135
Problems, 87, 88
Projects, 87, 88
Proprietors, colonial, 95, 96
Provincial Congress of New Jersey, meets at Trenton in 1775, 103, 104; meets again and declares New Jersey independent of royal authority, 104

Quakers, purchase West Jersey, 95; claim province, 96; settlers, 95, 97; opposed to slavery, 102
Queen's College. *See* Rutgers College

Radium, 73
Rahl, Colonel, British officer, 107
Rahway, 74, 111
Railroads, 4, 5, 62–64; main trunk lines, 63, 64; early, 124
Railways, electric, 64, 65
Rainfall, 25
Ramapo River, 24
Ranger, state, 28
Raritan, 87
Raritan Bay, water front on, 47; important waterway, 60; proposed inland waterway from Bordentown to, 62
Raritan River, drainage basin, 18; course altered by ice-sheet, 19; affected by tides, 19; navigable to New Brunswick, 21; clay beds near mouth of, 45

Red Bank, 82, 111, 112
Republicans, 120
Reservoirs, 23, 24
Revolutionary War, 105–115; New Jersey's quota in, 115
Ridgefield Park, 77
Ridgewood, 78
Ringwood, 42
Rivers, gaps of, 9; valleys of, 9, 16, 19; courses changed by glacial deposits, 17; tidal, 18; true, 18; drainage by, 18, 19; of Coastal Plain, 18, 22; navigable, 20, 21; power from, 21, 22; water supply from, 23
Riverside, 80
Riverton, 80
Roads, good, 65, 66; state highways, 65, 66; better-roads movement in early part of nineteenth century, 122, 124
Rockaway River, 24
Rocky Hill, 12, 111
Roebling, 57, 80
Roselle, 74
Roselle Park, 74
Rubber goods, Trenton ranks second in manufacture of, 84
Rutgers, Colonel Henry, 136
Rutgers College, 86, 120, 136, 137
Rutgers Scientific School, 136, 137
Rutherford, 78

Salem, glass factories at, 45; greensand marl found near, 47; industries of, 80, 81; early Swedish settlements near, 94; established as town, 96
Sand left by ice-sheet, 16
Sand bars, 13, 14; waterway inside, from Cold Spring Inlet to Barnegat Bay, 61
Sand belts, truck farms in, 15
Sand dunes, 13
Sands of Coastal Plain, 14, 44, 45
Sandstone, red, areas in Piedmont Belt, 12; used for buildings, 43
Sandstone Plain, 12
Sandy Hook, 67, 127
Savannah, first steamboat to cross the Atlantic Ocean, 122, 130
Sayreville, 46
Schools, earliest, 99, 133; public, 133, 134; normal, summer, and special, 134. *See* Education
Schurman, James, delegate to Annapolis Convention, 117
Scorpion, Philip Freneau prisoner in, 136
Scott, General Winfield, 130
Seagirt, 82
Seal, Great, of New Jersey, adopted in 1776, 101
Seal for city of Trenton, 101
Secaucus, 77
Senators, United States, 156–158
Serpentine, 43
Settlers, advantages of geographical position to, 3, 4; iron mined by, 42; relations of Indians and, 92; commercial rivalry among, 93; Dutch, 94, 96, 97; English, 94–96; Swedish, 94, 97; Quakers, 95, 97; Danish, 97; French Huguenots, 97; Scotch Covenanters, 97; homes of, 98; life of, 98–101
Sewing machines, manufacture of, leading industry, 50; Elias Howe inventor of, 55; great factory for, at Elizabethport, 74
Shad fisheries, 29, 30
Shale, used in cement-making, 44
Sheep-raising, 33
Shellfish industry, 30, 31
Shipbuilding, 6, 21, 50, 52; in Newark, 72; in Camden, 79
Shippen, Captain, 110
Shipyards, at Camden, 52; at Gloucester City, 80
Silk manufacture, New Jersey ranks first among the states in, 50; begun in Paterson in 1839, 55; most important industry in state, 55; raw materials for, 55, 56; number of establishments in state for, 56; Paterson leading city in United States in, 56, 77
Slate of the Appalachian Highlands region, 43
Slavery in New Jersey in 1800, 102; abolished in 1846, 103
Soils, of Coastal Plain, 14, 15; enriched by ice-sheet, 18; types of, 31–33; in market-gardening districts, 36–38; sandy loams for berry-growing, 40; for sweet potatoes, 41
Somerville, 86
South Amboy, 45, 75
Sourland Mountain, trap ridge, 12
South Orange, 72, 74
South River, 75
Speedwell, *Savannah* constructed at, 122; Stephen Vail owned ironworks at, 129
Spelter, product from zinc, 43
Splitrock Lake, 12
State Home for Boys, at Jamestown, 86
Steamboat, development of, 122
Stevens, Edwin A., founder of Stevens Institute of Technology, 137
Stevens, John, constructs first steamboat to navigate ocean, 122, 137
Stevens, Robert L., son of John Stevens, 122, 137
Stevens Institute of Technology, 137
Stirling, General, 112
Stockton, Richard, signer of Declaration of Independence, 106
Stockton, Commodore Robert, in Mexican War, 130
Strawberry, garden variety produced by Seth Boyden, 129
Suffern, 64
Sullivan, General, 107
Summit, 17, 73, 74
Surface, 8–15; of Appalachian Highlands and Valley, 9–12; of Piedmont Belt, 12; of Coastal Plain, 13–15

Sweden, commercial rivalry with other countries in early days, 93; charters granted by, for trading stations, 94; colonies of, captured by Dutch in 1655, 94; settlers from, 94, 97
Swedesboro, 41, 80

Tappan, 64
Taxation, meetings of protest against, 1774, 103; "tea party," 105
"Tea party," 105
Tenafly, 77
Tennet, Reverend Filbert, 100
Terra cotta plants at Perth Amboy, 75
Toms River, tidal, 18
Toms River (town), 82
Tories, 104, 115
Transportation, by navigable waterways, 20, 21, 60, 61; by canals, 61, 62; by railroads, 62–65; by good roads, 65, 66
Trap, volcanic rock, 12, 44
Trap ridges, 12
Trees, varieties of, 27, 28
Trenton, in densely populated area, 6, 67; port of importance, 21; falls of Delaware River at, 22; dairy section near, 35; rank among pottery centers, 46; wire industry at, 57; state capital, 83; industries, 83, 84; established as town, 96; Provincial Congress held at, in 1775, 103; battle of, 107–109; proposed for national capital, 119; first flour mill at, in 1680, 121; normal school at, 134; industrial school at, 134; commission form of government, 143
Truck farming in sand belts, 15. *See* Market-gardening
Tuckahoe (collier), 52
Tuckerton, 31, 82
Tunnel, under Hudson River, 63; Manhattan, 65

Union, 76

Vail, Alfred, 130
Vail, Stephen, inventor, 129, 130
Valleys, of Kittatinny Mountains, 9; river, 16; of Hackensack, Wallkill, and Musconetcong rivers, 19
Vegetables, growing of, 35–38
Vineland, center of peach production, 39; of potato production, 41; glass factories at, 45; training school for teachers of defective children at, 81, 134; commission form of government, 144
Von Donop, British commander, 107, 112

Wallkill River, 19
Wampum, 101
Wanaque River, 24
War of 1812, 127, 128
War with Spain, 132, 133
Washington, 85
Washington, General George, headquarters at Morristown, 86, 105, 110, 111, 114; battle of Long Island, 106; retreats across New Jersey, 106; crosses the Delaware at Trenton, 107; recrosses the Delaware, 108; holds council of war in Douglass House, Trenton, 109; wins battle of Princeton, 110; at Brandywine and Germantown, 111; winter quarters at Valley Forge, 112; wins battle of Monmouth Courthouse, 113; meets Mollie Pitcher, 113; presides over Constitutional Convention, 117; elected president, 120
Watchung Mountains, trap ridges, 12; cities at foot of, 86
Water front, New Jersey's, 47, 75
Water power, 21–23; location of manufacturing centers in northern New Jersey due to, 22; at Lambertville, 84
Water supply, 23, 24
Waterfalls, resulting from visit of ice-sheet, 18; furnish power, 21
Waterways, important commercial, 60; inland, 61; canals, 61, 124, 125; proposed inland, 62, 63
Wawayanda, Lake, 12
Wayne, General, Revolutionary officer, 112, 113
Weehawken, 63, 76
Westfield, 74
West Hoboken, 76
West New York, 76
West Orange, 72, 73
Westwood, 78
Wharton, 42
Whitefield, George, preacher, 100
Wildwood, 81
William III, Nassau Hall named in honor of, 102, 135
Winds, 25
Wire, how made and used, 56, 57; manufactured at Perth Amboy, Roebling, and Trenton, 57, 75, 80, 83
Witherspoon, John, early president of Princeton University and signer of the Declaration of Independence, 106, 135
Woodbine, 81
Woodbridge, rich clay beds at, 45; noted for its output of fire brick, 75; settled by Puritans, 97; first sawmill erected at, 121; early school established in, 133
Woodbury, 80
Woodstown, 81
Woolman, John, Quaker preacher, 100, 101; opposed to slavery, 102
World War, 137–140
Wrightstown, Camp Dix at, 138

Yorktown, siege of, New Jersey regiments took part in, 115

Zinc, rank in production, 42; chief products from, 43; oxide of, 43

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151

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